



LCD-TV

Chassis : N66F

Model : LA22B350F2
LA22B450C8

SERVICE Manual

TFT-LCD TV



LA22B350F2

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2. Product specifications
3. Disassembly and Reassembly
4. Troubleshooting
5. Exploded View & Part List
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3. Disassembly and Reassembly

This section of the service manual describes the disassembly and reassembly procedures for the LA22B350F2 LCD TV.

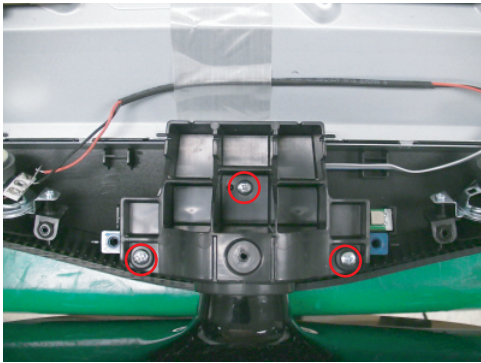

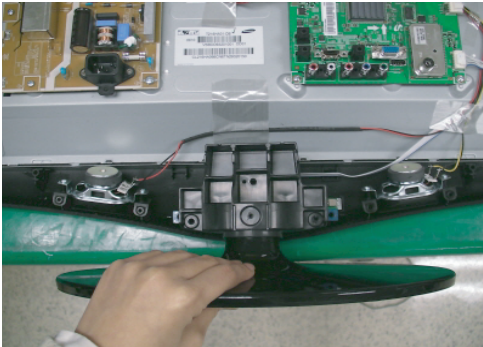
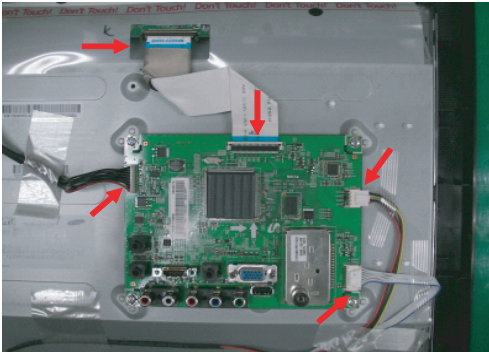
⚠ WARNING: This LCD TV contains electrostatically sensitive devices. Use caution when handling these components.

3-1. Disassembly and Reassembly (LA22B350F2)

- ⚠ Cautions:**
- 1. Disconnect the LCD TV from the power source before disassembly.
 - 2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.

Description	Picture Description	Screws
1. Place the TV face down on cushioned table. Remove the screws from rear cover.		 x 3
		

3. Disassembly and Reassembly




Description	Picture Description	Screws
2. Remove the screws from the Stand. Remove stand.		 ○ x 3
		
3. Disconnect cable from the boards.		



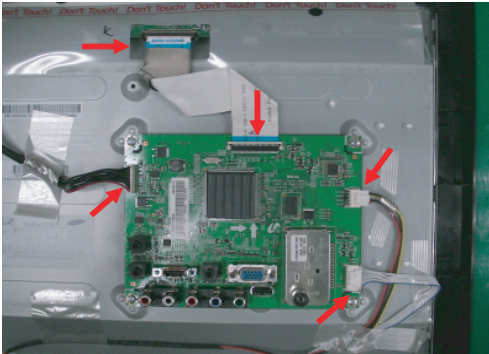
Description	Picture Description	Screws
4. Remove the Speaker.		
		
5. Remove Screw from the the boards.		<div> x 8</div> <div> x 2</div> <div> x 1</div>

※ Reassembly procedures are in the reverse order of disassembly procedures.

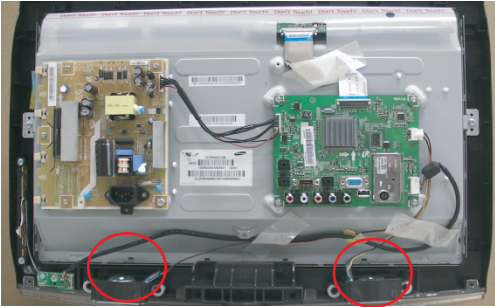

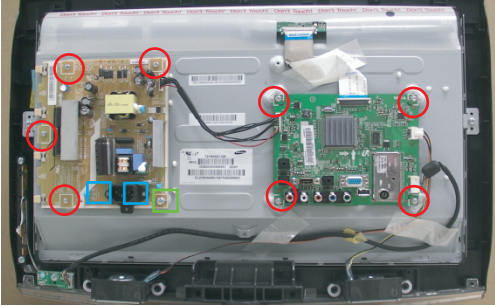



3-2. Disassembly and Reassembly (LA22B450C8)

- ⚠ Cautions:**
- 1. Disconnect the LCD TV from the power source before disassembly.
 - 2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.

Description	Picture Description	Screws
1. Remove the screws from the Stand. Remove stand.		
		 ○ x 2

Description	Picture Description	Screws
2. Place the TV face down on cushioned table. Remove the screws from rear cover.		 x 5
3. Disconnect cable from the boards.		

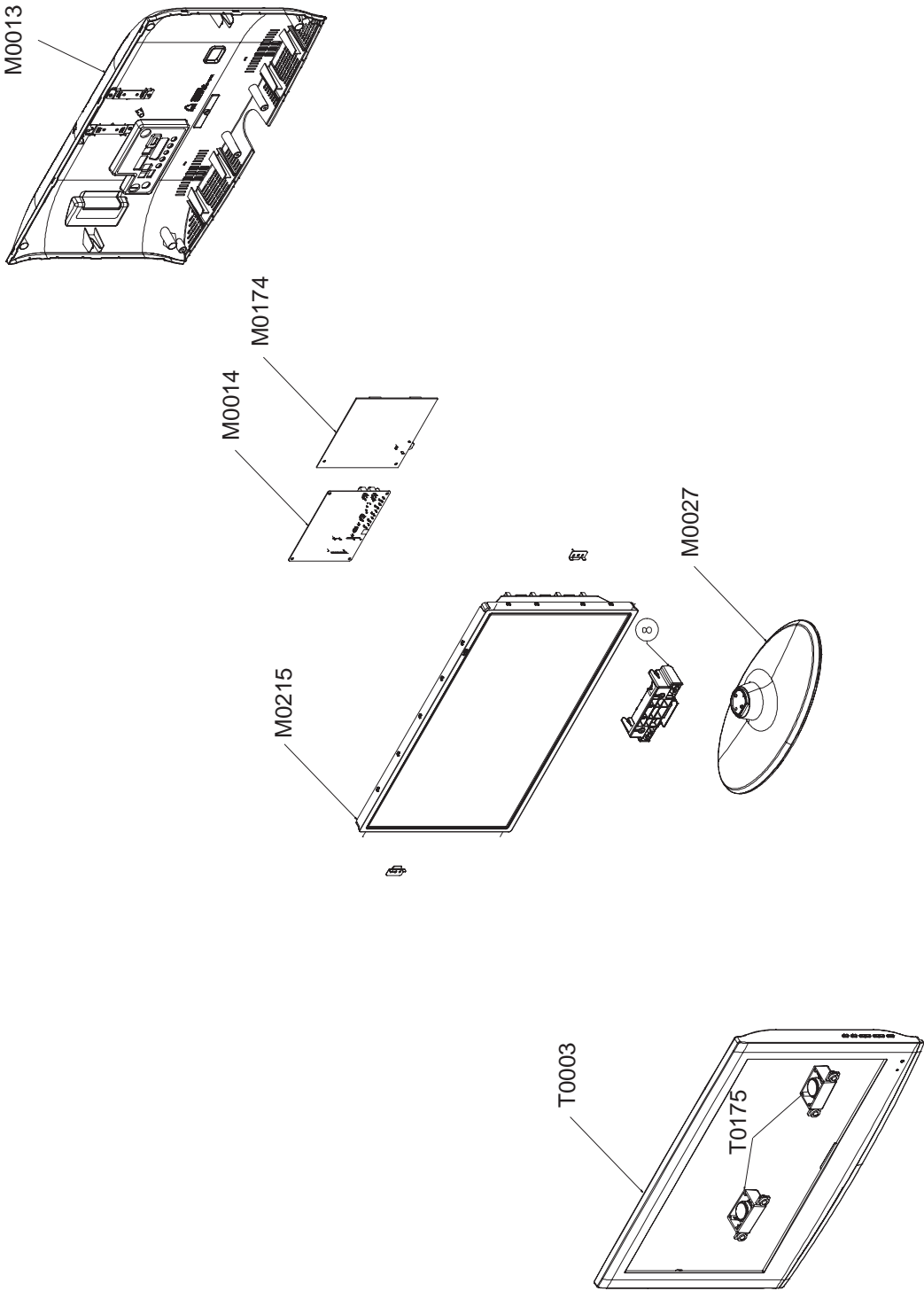
3. Disassembly and Reassembly

Description	Picture Description	Screws
4. Remove the Speaker.		
		
5. Remove Screw from the the boards.		<div> x 8</div> <div> x 1</div> <div> x 2</div>

※ Reassembly procedures are in the reverse order of disassembly procedures.

5. Exploded View & Part List

5-1. LA22B350F2V Exploded View



5-1-1. LA22B350F2V Parts List

Location No.	Code No.	Description & Specification	Q'ty	S.A/S.N.A	Remark
M0013	BN96-11231C	ASSY COVER P-REAR;LB350 22,HIPS,HB,BK500	1	SA	
M0014	BN94-02998A	ASSY PCB MAIN;LA22B350F2XXZ	1	SA	
M0027	BN96-11238A	ASSY STAND P-BASE;LB350 22,ABS+PMMA,HB,B	1	SA	
M0174	BN44-00302A	AC VSS(I);IP-55145T,L650,1.9~2.9mA,8.2~9	1	SA	
M0215	BN07-00744A	LCD-PANEL;T216HA01-DB,LM216HA,6bit Hi-FR	1	SA	
T0003	BN96-11230D	ASSY COVER P-FRONT;LB350 22,ABS+PMMA,HB,	1	SA	
T0175	BN96-11276A	ASSY SPEAKER P;16ohm,4pin,3W,L350 22"	1	SA	

5-2. LA22B350F2V Parts List

Service Bom (SA: SERVICE AVAILABLE, SNA: SERVICE NOT AVAILABLE)

Level	Location No.	Code No.	Description & Specification	Q'ty	SA/SNA	Remark
0.1		BN90-02234D	ASSY COVER FRONT;LB350 22	1	SNA	
..2	T0003	BN96-11230D	ASSY COVER P-FRONT;LB350 22,ABS+PMMA,HB,	1	SA	
...3	M0081	6003-001188	SCREW-TAPTYPE;BH,+,-,B,M4,L10,ZPC(WHT),S	3	SNA	
...3	T0069	BN60-00027A	SPACER-FELT;42P4A,FELT,L20,BLACK,T0.5,W2	4	SNA	
...3	CCM1	BN63-02183D	COVER-SHEET;Rhcm,PE Vinyl,T0.04,680mm,20	0.45	SNA	
...3	CCM1	BN63-05199J	COVER-SHEET;AMBER,PE,T0.08,W105mm,200M,C	2	SNA	
...3	M0112	BN63-05882D	COVER-FRONT;LB350 22,ABS+PMMA,HB,TBK02,H	1	SNA	
...3	AD070	BN64-01116A	DECORATION-BOTTOM;LB350 22,ABS,HB,BL35	1	SNA	
...3	T0920	BN61-05593B	GUIDE-STAND;22B650,ABS HB,BK19	1	SA	
...3	M0125	BN96-11522D	ASSY BOARD P-TOUCH FUNCTION&IR;SS-PJT,12	1	SA	
..2	T0175	BN96-11276A	ASSY SPEAKER P;16ohm,4pin,3W,L350 22"	1	SA	
0.1	M0002	BN90-02237D	ASSY COVER REAR;LB350 22	1	SNA	
..2	T0081	6002-001294	SCREW-TAPPING;BH,+,-,M4,L16,ZPC(BLK)	3	SA	
..2	M0013	BN96-11231C	ASSY COVER P-REAR;LB350 22,HIPS,HB,BK500	1	SA	
...3	M0113	BN61-01581A	BRACKET-VESA;BI17/19BS,SECC,T1.0	2	SNA	
...3	M0006	BN63-05910C	COVER-REAR;LB350 22,HIPS,HB,BK500	1	SNA	
...3	T0071	BN64-01115B	INLAY-TERMINAL;LB350,22,CO,PS SHEET,T0.5	1	SNA	
...3	T0139	BN65-00002A	CLAMPER CORE;BORDEAUX,LDPE,BLK	1	SNA	
0.1	M0216	BN90-02240A	ASSY STAND;LB350 22	1	SNA	
..2	M0027	BN96-11238A	ASSY STAND P-BASE;LB350 22,ABS+PMMA,HB,B	1	SA	
...3	CCM1	BN63-02183B	COVER-SHEET;Rhcm,PE Vinyl,T0.04,150mm,20	0.8	SNA	
...3		BN63-05885A	COVER-STAND BASE;LB350 22,ABS+PMMA,HB,BK	1	SNA	
...3	AR011	BN73-00077A	RUBBER FOOT;MATISSE,BUMPON,#13.5,T2.0,60	4	SNA	
0.1		BN91-04215D	ASSY LCD-CHILIN;BN07-00744A	1	SNA	
..2	M0215	BN07-00744A	LCD-PANEL;T216HA01-DB,LM216HA,6bit Hi-FR	1	SA	
0.1	M0017	BN91-04246A	ASSY CHASSIS;LA22B350F2XXZ	1	SNA	
..2	M0014	BN94-02998A	ASSY PCB MAIN;LA22B350F2XXZ	1	SA	
...3		0202-001463	SOLDER-WIRE;LFC2-W3.0,-,D3,99.79Sn/0.2Cu	1.343	SNA	
...3		0202-001608	SOLDER-WIRE FLUX;LFC7-107,D0.8,99.3Sn/0.	0.013	SNA	
...3		0204-002420	SOLVENT;1M-1000,C3H7OH,96	2.92	SNA	
...3		0204-002607	FLUX;DF-234U,13%,14KG,Gravity 0.82	1.895	SNA	
...3		3701-001480	CONNECTOR-DSUB;15P,3R,FEMAIL,STAMPED PIN	1	SA	
...3	HB01A	3711-003846	HEADER-BOARD TO CABLE;BOX,8P,1R,2mm,ANGL	1	SA	
...3	PCN1	3711-004712	HEADER-BOARD TO CABLE;BOX,9P,1R,2mm,STRA	1	SA	
...3	HB01A	3711-006715	HEADER-BOARD TO CABLE;BOX,4P,1R,2.5mm,AN	1	SNA	
...3	JA330	3722-001061	JACK-PHONE;1P,3.6PI,AG,BLK,N	3	SA	
...3	JA332	3722-002691	JACK-PIN;2P,Ni,WHT/RED,STRAIGHT	1	SA	
...3	JA331	3722-002703	JACK-PIN;3P,Ni,GRN/BLU/RED,STRAIGHT	1	SA	
...3		BN97-01987A	ASSY HDCP;BN46-00018A,PS-42V6S,D73A,MSTA	1	SNA	
....4		BN46-00018A	KEY CODE-CERTIFICATE;(HDCP KEY)PPM42M5S,	1	SNA	
...3	T0174	BN97-03552A	ASSY SMD;LA22B350F2X	1	SNA	
....4		0202-001477	SOLDER-CREAM;LST309-M,D20~45um,96.5Sn/3A	0.773	SNA	
....4	DS01A	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200mA,SO	15	SA	
....4	D1	0401-001099	DIODE-SWITCHING;1N4148WS,75V,150mA,SOD-3	4	SA	
....4	D0254	0402-000553	DIODE-SCHOTTKY;SS24/B240,40V,2000mA,DO-2	1	SA	
....4		0403-000002	DIODE-ZENER;VLZ5V6B,5.45/5.73V,500mW,SOD	1	SA	
....4		0403-000771	DIODE-ZENER;VLZ6V2B,5.96-6.27V,500mW,SOD	10	SA	
....4		0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200mW,SOT-2	1	SA	

5. Exploded View & Part List

Level	Location No.	Code No.	Description & Specification	Q'ty	SA/SNA	Remark
....4	D0254	0404-001020	DIODE-SCHOTTKY;BAT54C,30V,200mA,SOT-23,T	2	SA	
....4	T0139	0406-001271	DIODE-TVS;RCLAMP0524P,6/-V,150W,SLP251	2	SNA	
....4	Q101	0501-000445	TR-SMALL SIGNAL;KTC3875S-Y,NPN,150mW,SOT	9	SA	
....4	PQ02	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	SA	
....4	CEQ2	0505-000110	FET-SILICON;2N7002,N,60V,115mA,7.5ohm,0.	7	SA	
....4	Q409	0505-001165	FET-SILICON;Si3443CDV,P,-20V,+4.4A,65mo	1	SA	
....4	Q409	0505-001170	FET-SILICON;FDS9933A,P,-20V,3.8A,0.075oh	1	SA	
....4		1006-001266	IC-LINE TRANSCEIVER;3232,TSSOP,16P,174MI	1	SA	
....4	IC112	1103-000129	IC-EEPROM;24C02,2Kbit,256x8,SOP,8P,5x4mm	2	SA	
....4	IC112	1103-001385	IC-EEPROM;AT24C256,256Kbit,32Kx8,SOP,8P,	1	SA	
....4		1105-001931	IC-DDR2 SDRAM;K4T51163Q,DDR2-800,512Mbit	1	SA	
....4	T0085	1201-002487	IC-AUDIO AMP;MAX9728A,QFN,12P,3x3mm,DUAL	1	SA	
....4	T0124	1201-002822	IC-POWER AMP;TAS5709,HTQFP,48P,7x7mm,DUA	1	SA	
....4	T0087	1203-001815	IC-POSIFIXED REG.;78M09,TO-252,3P,PLAST	1	SA	
....4	T0087	1203-002842	IC-POSIFIXED REG.;AP1117D-33,TO-252,3P,	2	SA	
....4	T0087	1203-002974	IC-POSIFIXED REG.;AP1117D-25A,TO-252,3P	1	SA	
....4		1203-004363	IC-VOL. DETECTOR;RT9818C-29PV,SOT-23,3P,	1	SA	
....4		1203-004364	IC-VOL. DETECTOR;RT9818C-42PV,SOT-23,3P,	1	SA	
....4	T0170	1203-005463	IC-SWITCH VOL. REG.;MIC2605YML,MLF,8P,2x	1	SA	
....4		1203-005538	IC-DC/DC CONVERTER;AOZ1021HAIL,SOP,8P,4.	1	SA	
....4		1205-003201	IC-BUS SWITCH;TC7WB125FK,SSOP,8P,2x2.3mm	2	SA	
....4	IC109	1205-003695	IC-LCD CONTROLLER;SEMS03-LF,PQFP,296P,32	1	SA	
....4		1405-001185	VARISTOR;24Vdc,1.6x0.8x0.36mm,TP	1	SA	
....4		1405-001233	VARISTOR;30Vdc,5A,1.6x0.8x0.8mm,TP	8	SA	
....4	DR1	2007-000043	R-CHIP;1Kohm,1%,1/10W,TP,1608	2	SA	
....4	PR4	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608	2	SA	
....4	PR6	2007-000072	R-CHIP;47ohm,5%,1/10W,TP,1608	2	SNA	
....4	AR30	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	SA	
....4	AR150	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	4	SA	
....4	CER04	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	3	SA	
....4	MROP1	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	6	SA	
....4	ZPR3	2007-000106	R-CHIP;220Kohm,5%,1/10W,TP,1608	1	SA	
....4	R105	2007-000138	R-CHIP;100ohm,5%,1/16W,TP,1005	52	SA	
....4	AR49	2007-000140	R-CHIP;1Kohm,5%,1/16W,TP,1005	4	SNA	
....4	MR306	2007-000141	R-CHIP;2.2Kohm,5%,1/16W,TP,1005	3	SNA	
....4	R319	2007-000143	R-CHIP;4.7Kohm,5%,1/16W,TP,1005	17	SNA	
....4	R104	2007-000148	R-CHIP;10Kohm,5%,1/16W,TP,1005	28	SA	
....4	HDR2	2007-000151	R-CHIP;15Kohm,5%,1/16W,TP,1005	2	SNA	
....4	MR36	2007-000153	R-CHIP;22Kohm,5%,1/16W,TP,1005	6	SNA	
....4	MR13	2007-000157	R-CHIP;47Kohm,5%,1/16W,TP,1005	1	SNA	
....4	R509	2007-000170	R-CHIP;1Mohm,5%,1/16W,TP,1005	1	SNA	
....4	R111	2007-000171	R-CHIP;0ohm,5%,1/16W,TP,1005	34	SNA	
....4	HDR17	2007-000172	R-CHIP;10ohm,5%,1/16W,TP,1005	9	SNA	
....4	R338	2007-000173	R-CHIP;22ohm,5%,1/16W,TP,1005	22	SNA	
....4	UR23	2007-000174	R-CHIP;47ohm,5%,1/16W,TP,1005	10	SNA	
....4	MR39	2007-000242	R-CHIP;1.5Kohm,5%,1/16W,TP,1005	1	SNA	
....4	KR7	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	SA	
....4	MR9	2007-000455	R-CHIP;18Kohm,1%,1/10W,TP,1608	1	SA	
....4	WR18B	2007-000463	R-CHIP;18ohm,5%,1/10W,TP,1608	4	SA	
....4	FR6	2007-000536	R-CHIP;200ohm,1%,1/10W,TP,1608	1	SA	
....4	R38	2007-000640	R-CHIP;270ohm,1%,1/10W,TP,1608	1	SA	

Level	Location No.	Code No.	Description & Specification	Q'ty	SA/SNA	Remark
....4	R19	2007-000763	R-CHIP;330ohm,1%,1/10W,TP,1608	1	SNA	
....4	R124	2007-000775	R-CHIP;33Kohm,5%,1/16W,TP,1005	1	SNA	
....4	R552	2007-000913	R-CHIP;43Kohm,5%,1/10W,TP,1608	2	SA	
....4	DR37	2007-000932	R-CHIP;470ohm,5%,1/16W,TP,1005	5	SNA	
....4		2007-001237	R-CHIP;910ohm,1%,1/10W,TP,1608	1	SA	
....4	OTR1	2007-001292	R-CHIP;33ohm,5%,1/16W,TP,1005	7	SNA	
....4	R326	2007-001325	R-CHIP;3.3Kohm,5%,1/16W,TP,1005	3	SNA	
....4	R1	2007-002425	R-CHIP;1ohm,5%,1/10W,TP,1608	6	SNA	
....4	TR30	2007-007009	R-CHIP;75ohm,5%,1/16W,TP,1005	8	SNA	
....4	R365	2007-007107	R-CHIP;100Kohm,1%,1/16W,TP,1005	4	SNA	
....4	DR4	2007-007142	R-CHIP;10Kohm,1%,1/16W,TP,1005	3	SNA	
....4		2007-007297	R-CHIP;110ohm,1%,1/10W,TP,1608	1	SA	
....4		2007-007319	R-CHIP;390ohm,1%,1/16W,TP,1005	2	SNA	
....4		2007-007334	R-CHIP;200Kohm,1%,1/16W,TP,1005	1	SNA	
....4	RR17	2007-007549	R-CHIP;4.99Kohm,1%,1/10W,TP,1608	1	SA	
....4	R8	2007-007721	R-CHIP;560ohm,1%,1/10W,TP,1608	1	SA	
....4		2007-008593	R-CHIP;750ohm,1%,1/16W,TP,1005	1	SA	
....4	PRN7	2011-001011	R-NETWORK;10Kohm,5%,1/16W,L,CHIP,8P,TP,3	4	SA	
....4	MR38	2011-001093	R-NETWORK;100ohm,5%,1/16W,L,CHIP,8P,TP,3	3	SA	
....4	DAR09	2011-001262	R-NETWORK;22ohm,5%,1/16W,L,CHIP,8P,TP,2.	10	SA	
....4	AC1	2203-000125	C-CER,CHIP;1.2nF,10%,50V,X7R,TP,1608,-	4	SA	
....4	AD480	2203-000181	C-CER,CHIP;100nF,+80-20%,25V,Y5V,TP,2012	1	SA	
....4	AC14	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,TP,1608	32	SNA	
....4	PC43	2203-000233	C-CER,CHIP;0.1nF,5%,50V,C0G,TP,1005	3	SA	
....4	C395	2203-000260	C-CER,CHIP;10nF,10%,50V,X7R,2012	1	SNA	
....4	C254	2203-000438	C-CER,CHIP;1nF,10%,50V,X7R,TP,1005	7	SA	
....4	C507	2203-000489	C-CER,CHIP;2.2nF,10%,50V,X7R,TP,1005	4	SA	
....4	MC9	2203-000627	C-CER,CHIP;.022nF,5%,50V,C0G,TP,1005	2	SNA	
....4	AC109	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	3	SA	
....4	DC25	2203-000812	C-CER,CHIP;.033nF,5%,50V,C0G,1005	3	SA	
....4	ZC165	2203-000815	C-CER,CHIP;0.033nF,5%,50V,C0G,1608	6	SA	
....4	AD480	2203-000995	C-CER,CHIP;.047nF,5%,50V,C0G,TP,1005	2	SA	
....4	AC124	2203-000998	C-CER,CHIP;0.047nF,5%,50V,C0G,1608	1	SNA	
....4	AD480	2203-001412	C-CER,CHIP;0.03nF,5%,50V,NP0,TP,1005	2	SNA	
....4	MC22R	2203-001596	C-CER,CHIP;2200nF,+80-20%,50V,Y5V,2012	2	SA	
....4	C313	2203-001630	C-CER,CHIP;330nF,+80-20%,16V,Y5V,1608	1	SNA	
....4	AD480	2203-002285	C-CER,CHIP;10nF,10%,50V,X7R,1005	3	SNA	
....4	AD480	2203-002525	C-CER,CHIP;0.56nF,10%,50V,X7R,TP,1005	4	SNA	
....4	C178	2203-002793	C-CER,CHIP;1000nF,+80-20%,25V,Y5V,2012	2	SNA	
....4	DC108	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	SC	
....4	AAC1	2203-005249	C-CER,CHIP;100nF,10%,50V,X7R,TP,1608	10	SNA	
....4	TE3	2203-005261	C-CER,CHIP;1000nF,10%,25V,X7R,TP,3216	1	SNA	
....4	C410	2203-005384	C-CER,CHIP;4700nF,+80-20%,10V,Y5V,TP,201	10	SNA	
....4	AD480	2203-005437	C-CER,CHIP;10000nF,+80-20%,10V,Y5V,3216	1	SNA	
....4	AD480	2203-005533	C-CER,CHIP;1000nF,20%,6.3V,X7R,TP,1608	2	SNA	
....4	EC9	2203-005834	C-CER,CHIP;22000nF,+80-20%,10V,Y5V,3216	1	SA	
....4	AD480	2203-005968	C-CER,CHIP;4.7NF,10%,50V,X7R,TP,1005	3	SNA	
....4	AD480	2203-006126	C-CER,CHIP;47nF,10%,16V,X7R,1005	14	SNA	
....4	PC11	2203-006141	C-CER,CHIP;1000nF,10%,16V,X5R,1608	5	SNA	
....4	C102	2203-006158	C-CER,CHIP;100nF,10%,16V,X7R,1005	24	SNA	
....4	AD480	2203-006307	C-CER,CHIP;1000nF,10%,25V,X5R,2012	4	SNA	

5. Exploded View & Part List

Level	Location No.	Code No.	Description & Specification	Q'ty	SA/SNA	Remark
....4	AD480	2203-006336	C-CER,CHIP;10000nF,10%,25V,X5R,3216	2	SA	
....4	C125	2203-006361	C-CER,CHIP;10000nF,10%,10V,X5R,TP,2012	15	SC	
....4	HDC11	2203-006562	C-CER,CHIP;1000nF,10%,10V,X5R,TP,1005	6	SNA	
....4	AD480	2203-006618	C-CER,CHIP;2200nF,+80-20%,16V,Y5V,TP,160	2	SNA	
....4	AD480	2203-006681	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1005	18	SNA	
....4	AD480	2203-007176	C-CER,CHIP;10000nF,10%,16V,X5R,TP,2012 (7	SNA	
....4	VL6	2703-000398	INDUCTOR-SMD;10uH,10%,3225	3	SA	
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	3	SA	
....4	T0052	2703-003559	INDUCTOR-SMD;4.7uH,20%,8080	1	SNA	
....4	X202	2801-003773	CRYSTAL-SMD;12MHz,30ppm,28-AAN,20pF,50oh	1	SA	
....4	F103	2901-001506	FILTER-EMI SMD;5V,0.13A,0pF,2x1x0.5mm,TP	2	SA	
....4	DR32	3301-000314	BEAD-SMD;120ohm,1.6x0.8x0.8mm,-,-,-	2	SNA	
....4	T0568	3301-001186	BEAD-SMD;600ohm,3216,2500mA,TP,553ohm/93	4	SA	
....4	T0568	3301-001236	BEAD-SMD;60ohm,1608	3	SNA	
....4	T0568	3301-001404	BEAD-SMD;30ohm,2012,TP,15.9OHM/30MHz	15	SA	
....4	AC510	3708-001150	CONNECTOR-FPC/FFC/PIC;30P,1mm,SMD-A,SN,Y	1	SA	
....4	T0077	BN41-01238A	PCB MAIN;SS-Project,FR-4,4,1.2T,244*157,	1	SNA	
....4	M0018	BN97-03571A	ASSY MICOM;T-LL3MEAM-1005.7,2009.10.21,N	1	SNA	
....5		1107-001735	IC-NOR FLASH;MX25L3205DM2I-12G,32Mbit,16	1	SNA	
....4	DS01A	0401-001049	DIODE-SWITCHING;LS4148,75V,150mA,SOD-80,	6	SA	
....4	KR24	2007-000067	R-CHIP;15Kohm,1%,1/10W,TP,1608	2	SNA	
....4	C263	2203-000972	C-CER,CHIP;47nF,10%,16V,X7R,1608	2	SA	
....4	C745	2203-005171	C-CER,CHIP;1000nF,10%,16V,X7R,2012	2	SNA	
....4		3701-001591	CONNECTOR-HDMI;19P,2ROW,FEMALE,SMD-S,AU	1	SNA	
....4	R133	2007-007651	R-CHIP;9.1Kohm,1%,1/10W,TP,1608	1	SA	
....4	IC012	1203-003700	IC-POS1.ADJUST REG.;LD1117ADT-R,DPAK,3P,	2	SA	
...3	CIS3	BN40-00142B	TUNER;TCPS3001PD11S(H),TCPS3001PD11S(H),	1	SA	
...3	T0066	BN62-00042A	HEAT SINK-ES;30*30*5,Ceramic,T1.5,TAPE	1	SNA	
0.1		BN91-04247A	ASSY SHIELD;LA22B350F2XXZ	1	SNA	
..2	T0081	6001-000321	SCREW-MACHINE;FH,+,M3,L10,NI PLT,SWRCH18	2	SA	
..2	S.N.A	6003-000269	SCREW-TAPTYPE;BH,+,S,M3,L6,ZPC(WHT),SW	8	SNA	
..2	M0081	6003-001439	SCREW-TAPTYPE;BH,+,S,M4,L8,ZPC(WHT),SWRC	1	SNA	
..2	M0174	BN44-00302A	AC VSS(I);IP-55145T,L650,1.9~2.9mA,8.2~9	1	SA	
..2	M0251	BN96-02854N	ASSY CABLE P;Fininfarina,FLAT CABLE,-,15	1	SA	
..2	M0081	6006-001096	SCREW-TAPTYPE;BH,+,WP,B,M4.0,L12,ZPC(BLK	1	SNA	
..2	CIS1	0203-001586	TAPE-FILAMENT;#893,0.15,25,55	0.14	SNA	
0.1		BN92-05023C	ASSY BOX;LB350 22	1	SNA	
..2	T0077	BH68-00329D	LABEL BAR CODE-02;NO CE,NO WT`Y,MPRII,LA	1	SNA	
..2	M0245	BN96-02895A	ASSY MISC P-01,HANDLE PACKING;ALL MODEL,	1	SNA	
...3		BN66-00007A	LEVER-TOP;ALL MODEL,LDPE,WHITE,5.8g	1	SNA	
...3		BN66-00008A	LEVER-BOTTOM;ALL MODEL,LDPE,WHITE,4.01g	1	SNA	
..2		BN69-03902D	BOX-SET;22LB350,CB,A-01,SW-55,YEL,W618,D	1	SNA	
0.1		BN92-05027G	ASSY P/MATERIAL;B350,22	1	SNA	
..2		6902-000604	BAG WRAPPING;LDPE,T0.02,W500,L10000,TRP,	1.57	SNA	
..2		6902-000609	BAG ROLL;LDPE,T0.05,W2400,L1000,TRP,30.0	0.05	SNA	
..2	T0524	6902-000996	BAG PE;HDPE/NITRON,T0.015/T0.5,W800,L600	1	SNA	
..2		BH69-00457A	PACKING INNER-00,PAD;COMM,OTHER,T3.0,113	1	SNA	
..2		BN69-00391D	PAD-ANGLE;DI19PS,OTHER,T4,50,2000,YEL	1	SNA	
..2		BN69-03565K	PAD-PLATE;19LB650,CB,SW,YEL,W1150,D1090,	1	SNA	
..2	T0246	BN69-03819A	CUSHION-SET;22LB350(S-PJT),EPS,18.2g/l,2	1	SNA	
..2	T0603	BN69-00131U	PALLET;1703FP-HAS,WOOD,1240,1060,120	1	SNA	

Level	Location No.	Code No.	Description & Specification	Q'ty	SA/SNA	Remark
..2	T0214	BN74-00008A	TAPE-OPP MASKING;OPP-2,T0.05,W100,L800M,	1.54	SNA	
0.1		BN92-06479A	ASSY LABEL;LA22B350F2VXXZ	1	SNA	
..2		BH68-00670A	LABEL BOX-COUNTRYWARD;22,26,32B350,MOJO	1	SNA	
..2		BH68-00670C	LABEL BOX-COUNTRYWARD;22B350,MOJO 90G,58	1	SNA	
..2	CCM1	BN68-01176A	LABEL RATING;W/W,SS,PET POLYESTER,T0.05,	1	SNA	
..2		BN68-03003A	LABEL-PRINTING;22MM,50MM,BLACK,WHITE,Pro	2	SNA	
..2		BN68-03009A	LABEL-POP;10MM,10MM,RED,Product sold in	1	SNA	
0.1	ACCE1	BN92-06480A	ASSY ACCESSORY;LA22B350F2VXXZ	1	SNA	
..2	M0045	BN96-11507A	ASSY ACCESSORY-CABLE;LA22B350F2XXZ	1	SA	
...3	M0045	BN96-01800C	ASSY ACCESSORY;PEONY/ROSE,-,KO,-,-,Witho	1	SNA	
...4	T0081	6002-001294	SCREW-TAPPING;BH,+,M4,L16,ZPC(BLK)	2	SA	
...4		6902-000683	BAG ZIPPER;LDPE,T0.05,W60,L60,TRP,4-PE M	1	SNA	
...3	T0268	3903-000082	CBF-POWER CORD;DT,CN,IP3/YES(A),3P_Lug,2	1	SA	
...3	T0074	BN59-00880A	REMOCON;DLP,CRT,TM940,CHINA,39,92g	1	SA	
...3	T0527	BN68-00513A	LABEL-E,PASS;ALL MODEL,YUPO(110G),50X15,	1	SNA	
...3	T0524	6902-001107	BAG PE;LDPE,T0.05,W450,L400,TRP,0,3Separ	1	SNA	
...3		BN43-00004A	BATTERY;BM1L,BATTERY,MN,600mAh,7.9g	2	SNA	
..2		BN96-15056A	ASSY ACCESSORY-MANUAL;LA22B350F2VXXZ	1	SNA	
...3	T0524	6902-000110	BAG PE;LDPE,T0.05,W250,L400,TRP,28,2,9.2	1	SNA	
...3	T0527	AA68-00764A	LABEL-PASSING;SAMSUNG ALL,ART PAPER,CLR,	1	SNA	
...3	T0527	AA68-02517A	LABEL;PJTV(TTSEC),COPPERPLATE,50,75,YELL	1	SNA	
...3	T0059	AA68-03184A	MANUAL FLYER-CARD-08;ALL MODEL,CHINESE,2	1	SNA	
...3	T0527	BN68-00513A	LABEL-E,PASS;ALL MODEL,YUPO(110G),50X15,	1	SNA	
...3		BN68-02999A	MANUAL USERS-IB;Comm,Samsung,SC,China,W/	1	SNA	
...3		BN68-03006A	MANUAL FLYER-NAMEPLATE-CARD;LA22B350,Sam	1	SNA	
...3	M0254	AA59-00416B	ANT SHIELD BOX;UGC-AS-003A,PAL-BG,DK,I,M	1	SA	

1. Precautions

1-1. Safety Precautions

Follow these safety, servicing and ESD precautions to prevent damage and to protect against potential hazards such as electrical shock.

1-1-1. Warnings

1. For continued safety, do not attempt to modify the circuit board.
2. Disconnect the AC power and DC power jack before servicing.

1-1-2. Servicing the LCD TV

1. When servicing the LCD TV, Disconnect the AC line cord from the AC outlet.
2. It is essential that service technicians have an accurate voltage meter available at all times.
Check the calibration of this meter periodically.

1-1-3. Fire and Shock Hazard

Before returning the LCD TV to the user, perform the following safety checks:

1. Inspect each lead dress to make certain that the leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the LCD TV.
2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor/capacitor networks, mechanical insulators, etc.
3. Leakage Current Hot Check (Figure 1-1):

WARNING : Do not use an isolation transformer during this test.

Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).

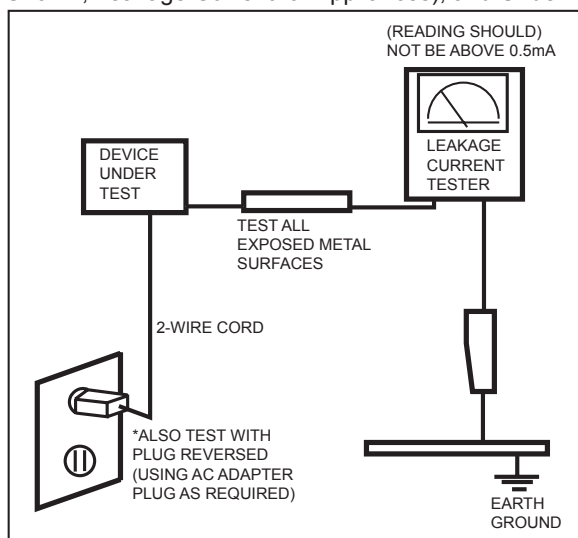



Figure 1-1. Leakage Current Test Circuit

4. With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: metal cabinets, screwheads and control shafts.
The current measured should not exceed 0.5 milliamp.
Reverse the power-plug prongs in the AC outlet and repeat the test.

1-1-4. Product Safety Notices

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection. The protection they give may not be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by  on schematics and parts lists. A substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

1-2. Servicing Precautions

WARNING: An electrolytic capacitor installed with the wrong polarity might explode.

Caution: Before servicing units covered by this service manual, read and follow the Safety Precautions section of this manual.

Note: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions.

1-2-1 General Servicing Precautions

1. Always unplug the unit's AC power cord from the AC power source and disconnect the DC Power Jack before attempting to:
(a) remove or reinstall any component or assembly, (b) disconnect PCB plugs or connectors, (c) connect a test component in parallel with an electrolytic capacitor.
2. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
3. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the area around the serviced part has not been damaged.
4. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
5. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500 V) to the blades of the AC plug. The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
6. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

1-3. Electrostatically Sensitive Devices (ESD) Precautions

Some semiconductor (solid state) devices can be easily damaged by static electricity. Such components are commonly called Electrostatically Sensitive Devices (ESD). Examples of typical ESD are integrated circuits and some field-effect transistors. The following techniques will reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. To avoid a shock hazard, be sure to remove the wrist strap before applying power to the LCD TV.
2. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of an electrostatic charge.
3. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESDs.
4. Use only a grounded-tip soldering iron to solder or desolder ESDs.
5. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
7. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
Caution: Be sure no power is applied to the chassis or circuit and observe all other safety precautions.
8. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting your foot from a carpeted floor can generate enough static electricity to damage an ESD.

1-4. Installation Precautions

1. For safety reasons, more than a people are required for carrying the product.
2. Keep the power cord away from any heat emitting devices, as a melted covering may cause fire or electric shock.
3. Do not place the product in areas with poor ventilation such as a bookshelf or closet. The increased internal temperature may cause fire.
4. Bend the external antenna cable when connecting it to the product. This is a measure to protect it from being exposed to moisture. Otherwise, it may cause a fire or electric shock.
5. Make sure to turn the power off and unplug the power cord from the outlet before repositioning the product. Also check the antenna cable or the external connectors if they are fully unplugged. Damage to the cord may cause fire or electric shock.
6. Keep the antenna far away from any high-voltage cables and install it firmly. Contact with the highvoltage cable or the antenna falling over may cause fire or electric shock.
7. When installing the product, leave enough space (0.1m) between the product and the wall for ventilation purposes. A rise in temperature within the product may cause fire.

Memo

Model	LA22B350F2	
Feature		
<ul style="list-style-type: none">▶ RF, 1-HDMI/DVI, 1-Component, 1-AV, D-sub▶ Brightness : 300cd/m²▶ Contrast Ratio : 800:1▶ Response time : 5ms▶ Dynamic contrast, PVA, TN▶ PIP(in HDMI 1, Component 1, PC Mode and Sub picture is available only in TV analog mode)		
Specifications		
Item	Description	
LCD Panel	TFT-LCD panel, T216HA01-DB,RGB vertical stripe, 1366 x 768 pixels, 26-Inch viewable, Normally Black, pixel pitch 0.1165(H) x 0.3495(V) mm	
Scanning Frequency	Horizontal : 60 kHz ~ 73 kHz (Automatic) Vertical : 40 Hz ~ 75 Hz (Automatic)	
Display Colors	16.7 million colors	
Maximum resolution	Horizontal : 1366 Pixels Vertical : 768 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω , internally terminated	
Input Sync Signal	H/V Separate, TTL, P. or N.	
Maximum Pixel Clock rate	85.5MHz	
Active Display Horizontal/Vertical	477.417(H) x 268.416 (V) mm	
AC power voltage & Frequency	AC 110V ~ 240V, 50/60Hz	
Power Consumption	<50W (< 1W, stand by)	
Dimensions Set (W x D x H)	21.9 x 8.0 x 16.7 inches (557.5 x 202.5 x 484.8 mm)_with stand 21.9 x 3.5 x 15.3 inches (557.5 x 88.8 x 387.7 mm)_without stand	
Weight (Set)	8.82 lbs (4.0kg)_with stand 8.38 lbs (3.8kg)_without stand	
TV System	Tuning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	PAL, SECAM, NT4.43,NT3.58
	Sound	BG, DK, M, I
Environmental Considerations	Operating Temperature: 32°F ~ 122°F (0°C ~ 50°C) Operating Humidity: 20% ~ 90% Storage Temperature: -4°F ~ 140°F (-20°C ~ 60°C) Storage Humidity: 5% ~ 90%	
Audio spec.	- MAX Internal Audio Output Power : Right => 5W, Left => 5W - Equalizer : 5band - Output Frequency : RF : 20 Hz ~ 15.4 kHz AV/Componet/HDMI : 20 Hz ~ 20 kHz	

2. Product specifications

Model	LA22B450C8	
Feature		
<div><div>▶ RF, 1-HDMI/DVI, 1-Component, 1-AV, D-sub</div><div>▶ Brightness : 300cd/m²</div><div>▶ Contrast Ratio : 800:1</div><div>▶ Response time : 5ms</div><div>▶ Dynamic contrast, PVA, TN</div><div>▶ PIP(in HDMI 1, Component 1, PC Mode and Sub picture is available only in TV analog mode)</div></div>		
Specifications		
Item	Description	
LCD Panel	TFT-LCD panel, T216HA01-DB,RGB vertical stripe, 1366 x 768 pixels, 26-Inch viewable, Normally Black, pixel pitch 0.1165(H) x 0.3495(V) mm	
Scanning Frequency	Horizontal : 60 kHz ~ 73 kHz (Automatic) Vertical : 40 Hz ~ 75 Hz (Automatic)	
Display Colors	16.7 million colors	
Maximum resolution	Horizontal : 1366 Pixels Vertical : 768 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω , internally terminated	
Input Sync Signal	H/V Separate, TTL, P. or N.	
Maximum Pixel Clock rate	85.5MHz	
Active Display Horizontal/Vertical	477.417(H) x 268.416 (V) mm	
AC power voltage & Frequency	AC 110V ~ 240V, 50/60Hz	
Power Consumption	<50W (< 1W, stand by)	
Dimensions Set (W x D x H)	21.9 x 6.8 x 16.6 inches (557.8 x 171.9 x 422.9 mm)_with stand 21.9 x 3.2 x 15.1 inches (557.8 x 81.3 x 384.2 mm)_without stand	
Weight (Set)	9.33 lbs (4.24kg)_with stand 8.81 lbs (4.0 kg)_without stand	
TV System	Tuning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	PAL, SECAM, NT4.43,NT3.58
	Sound	BG, DK, M, I
Environmental Considerations	Operating Temperature: 32°F ~ 122°F (0°C ~ 50°C) Operating Humidity: 20% ~ 90% Storage Temperature: -4°F ~ 140°F (-20°C ~ 60°C) Storage Humidity: 5% ~ 90%	
Audio spec.	<div>- MAX Internal Audio Output Power : Right => 5W, Left => 5W</div> <div>- Equalizer : 5band</div> <div>- Output Frequency : RF : 20 Hz ~ 15.4 kHz</div> <div>AV/Componet/HDMI : 20 Hz ~ 20 kHz</div>	

CHANNEL FREQUENCY TABLE

1. OUTPUT FREQUENCY : ANALOG fv:45.75MHz, fs:41.25MHz DIGITAL Fc:44MHz

2. TUNING STEP SIZE : FIRST PLL 250KHz SECOND PLL 62.5KHz

OSD	CH NO	AIR		BAND	CH NO	Cable STD		BAND	CH NO	Cable HRC		CH NO	Cable IRC	
		Air-DTV	Air-NTSC											
1	1								A-8	72.00		A-8	73.25	
2	2	57	55.25	V-L	2	55.25		V-L	2	54.00		2	55.25	
3	3	63	61.25	V-L	3	61.25		V-L	3	60.00		3	61.25	
4	4	69	67.25	V-L	4	67.25		V-L	4	66.00		4	67.25	
5	5	79	77.25	V-L	5	77.25		V-L	A-7	78.00		A-7	79.25	
6	6	85	83.25	V-L	6	83.25		V-L	A-6	84.00		A-6	85.25	
7	7	177	175.25	V-H	7	175.25		V-H	7	174.00		7	175.25	
8	8	183	181.25	V-H	8	181.25		V-H	8	180.00		8	181.25	
9	9	189	187.25	V-H	9	187.25		V-H	9	186.00		9	187.25	
10	10	195	193.25	V-H	10	193.25		V-H	10	192.00		10	193.25	
11	11	201	199.25	V-H	11	199.25		V-H	11	198.00		11	199.25	
12	12	207	205.25	V-H	12	205.25		V-H	12	204.00		12	205.25	
13	13	213	211.25	V-H	13	211.25		V-H	13	210.00		13	211.25	
14	14	473	471.25	UHF	A	121.25		MID	A	120.00		A	121.25	
15	15	479	477.25	UHF	B	127.25		MID	B	126.00		B	127.25	
16	16	485	483.25	UHF	C	133.25		MID	C	132.00		C	133.25	
17	17	491	489.25	UHF	D	139.25		MID	D	138.00		D	139.25	
18	18	497	495.25	UHF	E	145.25		MID	E	144.00		E	145.25	
19	19	503	501.25	UHF	F	151.25		MID	F	150.00		F	151.25	
20	20	509	507.25	UHF	G	157.25		MID	G	156.00		G	157.25	
21	21	515	513.25	UHF	H	163.25		MID	H	162.00		H	163.25	
22	22	521	519.25	UHF	I	169.25		MID	I	168.00		I	169.25	
23	23	527	525.25	UHF	J	175.25		SUPER	J	174.00		J	175.25	
24	24	533	531.25	UHF	K	181.25		SUPER	K	180.00		K	181.25	
25	25	539	537.25	UHF	L	187.25		SUPER	L	186.00		L	187.25	
26	26	545	543.25	UHF	M	193.25		SUPER	M	192.00		M	193.25	
27	27	551	549.25	UHF	N	199.25		SUPER	N	198.00		N	199.25	
28	28	557	555.25	UHF	O	205.25		SUPER	O	204.00		O	205.25	
29	29	563	561.25	UHF	P	211.25		SUPER	P	210.00		P	211.25	
30	30	569	567.25	UHF	Q	217.25		SUPER	Q	216.00		Q	217.25	
31	31	575	573.25	UHF	R	223.25		SUPER	R	222.00		R	223.25	
32	32	581	579.25	UHF	S	229.25		SUPER	S	228.00		S	229.25	
33	33	587	585.25	UHF	T	235.25		SUPER	T	234.00		T	235.25	
34	34	593	591.25	UHF	U	241.25		SUPER	U	240.00		U	241.25	
35	35	599	597.25	UHF	V	247.25		SUPER	V	246.00		V	247.25	
36	36	605	603.25	UHF	W	253.25		SUPER	W	252.00		W	253.25	
37	37	611	609.25	UHF	AA	259.25		HYPER	AA	258.00		AA	259.25	
38	38	617	615.25	UHF	BB	265.25		HYPER	BB	264.00		BB	265.25	
39	39	623	621.25	UHF	CC	271.25		HYPER	CC	270.00		CC	271.25	
40	40	629	627.25	UHF	DD	277.25		HYPER	DD	276.00		DD	277.25	
41	41	635	633.25	UHF	EE	283.25		HYPER	EE	282.00		EE	283.25	
42	42	641	639.25	UHF	FF	289.25		HYPER	FF	288.00		FF	289.25	
43	43	647	645.25	UHF	GG	295.25		HYPER	GG	294.00		GG	295.25	
44	44	653	651.25	UHF	HH	301.25		HYPER	HH	300.00		HH	301.25	
45	45	659	657.25	UHF	II	307.25		HYPER	II	306.00		II	307.25	
46	46	665	663.25	UHF	JJ	313.25		HYPER	JJ	312.00		JJ	313.25	
47	47	671	669.25	UHF	KK	319.25		HYPER	KK	318.00		KK	319.25	
48	48	677	675.25	UHF	LL	325.25		HYPER	LL	324.00		LL	325.25	
49	49	683	681.25	UHF	MM	331.25		HYPER	MM	330.00		MM	331.25	
50	50	689	687.25	UHF	NN	337.25		HYPER	NN	336.00		NN	337.25	
51	51	695	693.25	UHF	OO	343.25		HYPER	OO	342.00		OO	343.25	
52	52	701	699.25	UHF	PP	349.25		HYPER	PP	348.00		PP	349.25	
53	53	707	705.25	UHF	QQ	355.25		HYPER	QQ	354.00		QQ	355.25	
54	54	713	711.25	UHF	RR	361.25		HYPER	RR	360.00		RR	361.25	
55	55	719	717.25	UHF	SS	367.25		HYPER	SS	366.00		SS	367.25	
56	56	725	723.25	UHF	TT	373.25		HYPER	TT	372.00		TT	723.25	
57	57	731	729.25	UHF	UU	379.25		HYPER	UU	378.00		UU	729.25	
58	58	737	735.25	UHF	VV	385.25		HYPER	VV	384.00		VV	735.25	
59	59	743	741.25	UHF	WW	391.25		HYPER	WW	390.00		WW	741.25	
60	60	749	747.25	UHF	XX	397.25		HYPER	XX	396.00		XX	747.25	
61	61	755	753.25	UHF	YY	403.25		HYPER	YY	402.00		YY	753.25	
62	62	761	759.25	UHF	ZZ	409.25		HYPER	ZZ	408.00		ZZ	759.25	
63	63	767	765.25	UHF	AAA	415.25		HYPER	AAA	414.00		AAA	765.25	
64	64	773	771.25	UHF	BBB	421.25		HYPER	BBB	420.00		BBB	771.25	
65	65	779	777.25	UHF	CCC	427.25		ULTRA	CCC	426.00		CCC	777.25	
66	66	785	783.25	UHF	DDD	433.25		ULTRA	DDD	432.00		DDD	783.25	
67	67	791	789.25	UHF	EEE	439.25		ULTRA	EEE	438.00		EEE	789.25	
68	68	797	795.25	UHF	FFF	445.25		ULTRA	FFF	444.00		FFF	795.25	
69	69	803	801.25	UHF	GGG	451.25		ULTRA	GGG	450.00		GGG	801.25	

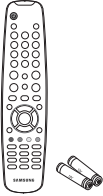
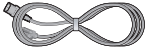
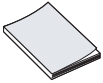
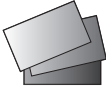

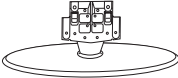
2. Product specifications

OSD	CH NO	AIR		BAND	CH NO	Cable STD	BAND	CH NO	Cable HRC	CH NO	Cable IRC
		Air-DTV	Air-NTSC								
70	70				HHH	499.25	ULTRA	HHH	498.00	HHH	499.25
71	71				III	505.25	ULTRA	III	504.00	III	505.25
72	72				JJJ	511.25	ULTRA	JJJ	510.00	JJJ	511.25
73	73				KKK	517.25	ULTRA	KKK	516.00	KKK	517.25
74	74				LLL	523.25	ULTRA	LLL	522.00	LLL	523.25
75	75				MMM	529.25	ULTRA	MMM	528.00	MMM	529.25
76	76				NNN	535.25	ULTRA	NNN	534.00	NNN	535.25
77	77				000	541.25	ULTRA	000	540.00	000	541.25
78	78				PPP	547.25	ULTRA	PPP	546.00	PPP	547.25
79	79				79	553.25	ULTRA	79	552.00	79	553.25
80	80				80	559.25	ULTRA	80	558.00	80	559.25
81	81				81	565.25	ULTRA	81	564.00	81	565.25
82	82				82	571.25	ULTRA	82	570.00	82	571.25
83	83				83	577.25	ULTRA	83	576.00	83	577.25
84	84				84	583.25	ULTRA	84	582.00	84	583.25
85	85				85	589.25	ULTRA	85	588.00	85	589.25
86	86				86	595.25	ULTRA	86	594.00	86	595.25
87	87				87	601.25	ULTRA	87	600.00	87	601.25
88	88				88	607.25	ULTRA	88	606.00	88	607.25
89	89				89	613.25	ULTRA	89	612.00	89	613.25
90	90				90	619.25	ULTRA	90	618.00	90	619.25
91	91				91	625.25	ULTRA	91	624.00	91	625.25
92	92				92	631.25	ULTRA	92	630.00	92	631.25
93	93				93	637.25	ULTRA	93	636.00	93	637.25
94	94				94	643.25	ULTRA	94	642.00	94	643.25
95	95				A-5	91.25	FM	A-5	90.00	A-5	91.25
96	96				A-4	97.25	FM	A-4	96.00	A-4	97.25
97	97				A-3	103.25	FM	A-3	102.00	A-3	103.25
98	98				A-2	109.25	MID	A-2	108.00	A-2	109.25
99	99				A-1	115.25	MID	A-1	114.00	A-1	115.25
100	100				100	649.25	ULTRA	100	648.00	100	649.25
101	101				101	655.25	ULTRA	101	654.00	101	655.25
102	102				102	661.25	ULTRA	102	660.00	102	661.25
103	103				103	667.25	ULTRA	103	666.00	103	667.25
104	104				104	673.25	ULTRA	104	672.00	104	673.25
105	105				105	679.25	ULTRA	105	678.00	105	679.25
106	106				106	685.25	ULTRA	106	684.00	106	685.25
107	107				107	691.25	ULTRA	107	690.00	107	691.25
108	108				108	697.25	ULTRA	108	696.00	108	697.25
109	109				109	703.25	ULTRA	109	702.00	109	703.25
110	110				110	709.25	ULTRA	110	708.00	110	709.25
111	111				111	715.25	ULTRA	111	714.00	111	715.25
112	112				112	721.25	ULTRA	112	720.00	112	721.25
113	113				113	727.25	ULTRA	113	726.00	113	727.25
114	114				114	733.25	ULTRA	114	732.00	114	733.25
115	115				115	739.25	ULTRA	115	738.00	115	739.25
116	116				116	745.25	ULTRA	116	744.00	116	745.25
.
.
125	125				125	799.25	ULTRA	125	798.00	125	799.25
.
.

2-2. Specification Comparison to Old Models

Model	B350(LA22B350F2) / B450(LA22B450C8)	Coral (LA22A450C)
Design		
Display Type	LCD TV	LCD TV
Built-in Tuner	O	O
Resolution	1366 x 768	1366 x 768
LCD Panel	TFT LCD Panel 50Hz	TFT LCD Panel 50Hz
Screen Size	22"	22"
Picture ratio	16 : 9	16 : 9
Dimensions (W x H x D)	21.9 x 16.7 x 8.0 inchs_with stand	22.0 x 17.2 x 8.5 inchs_with stand
Weight	B350 : 8.82 lbs_with stand B450 : 9.33 lbs_with stand	14.33 lbs_with stand
Brightness	300 nit	400 nit
Contrast Ratio	800:1	800:1
Picture Enhacer	DNle(Lola3)	DNle (FBE3)
Equalizer	O	O
Auto Motion Plus 100Hz	X	X
Surround Sound	2 Way SRS TruSurround Dolby Digital	3 Way SRS TruSurround Dolby Digital
Speaker Output	3W + 3W	3W + 3W
Antenna	1	1

2-3. Accessories

Product	Description	Code. No	Remark
	Remote Control & Batteries (AAA x 2)	BN59-00869A (BRAZIL) BN59-00880A (CHINA) BN59-00888A (M/EAST ASIA) BN59-00889A (LATIN AMERICA)	Samsung Electronics Service center
	Power Cord	3903-000172	
	Owner's Instructions	BN68-02101L	
	Warranty Card / Registration Card / Safety Guide Manual (Not available in all locations)	AA68-03184A	
	Stand Screw x 2	6002-001294	
	Stand	B350 : BN96-11238A B450 : BN96-11887A	

4. Troubleshooting

4-1. Troubleshooting

1. Check the various cable connections first.
 - Check to see if there is a burnt or damaged cable.
 - Check to see if there is a disconnected or loose cable connection.
 - Check to see if the cables are connected according to the connection diagram.

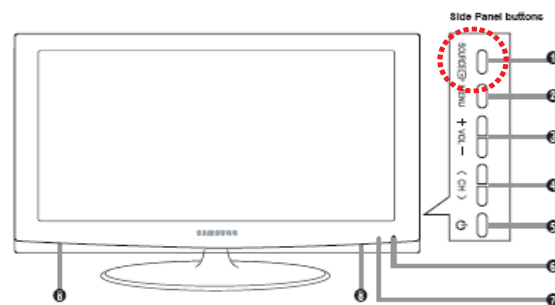
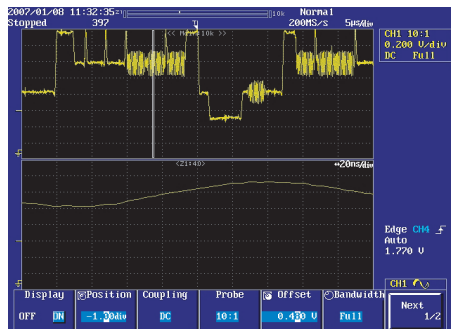
2. Check the power input to the Main Board.

Check internal Pattern lola3 if there is some picture noise.

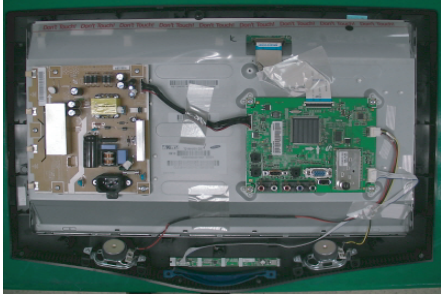
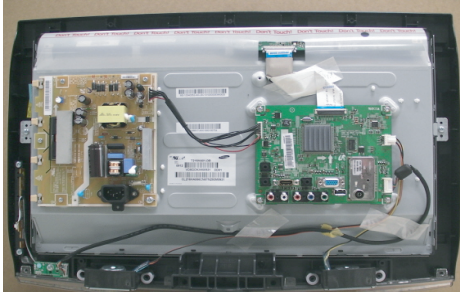
Factory mode(Info-MENU-Mute-power on → Advanced menu → MST69A84HQ → Pattern select : Off

Press right button of Remocon.



If lola3 NG, Chahge the Main Board.



4-1-1. No Power

Symptom	<ul style="list-style-type: none"> - The LEDs on the front panel do not work when connecting the power cord. - The SMPS relay does not work when connecting the power cord. - The units appears to be dead.
Major checkpoints	<p>The IP relay or the LEDs on the front panel does not work when connecting the power cord if the cables are improperly connected or the Main Board or SMPS is not functioning. In this case, check the following:</p> <ul style="list-style-type: none"> - Check the internal cable connection status inside the unit. - Check the fuses of each part. - Check the output voltage of SMPS. - Replace the Main Board.
Diagnostics	<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">LA22B350F2</div> <div style="text-align: center;">LA22B450C8</div> </div> <pre> graph TD Q1[LAMP off, power indicator LED red color?] -- No --> A1[Check a connection a power cable.] Q1 -- Yes --> Q2[1 Does proper DC5V appear at pin 6 of CN1001?] Q2 -- No --> A2[Change a Assy PCB Power.] Q2 -- Yes --> Q3[2 Does proper DC A3.3V appear at R1111?] Q3 -- No --> A3[Check a IC1106 Change a main PCB ass'y] Q3 -- Yes --> Q4[3 Does proper DC A2.5V, A1.2V appear at R1110, C1116?] Q4 -- No --> A4[Check a IC1105, IC1107 Change a main PCB ass'y] Q4 -- Yes --> Q5[4 A power is supplied to set?] </pre>
Caution	Make sure to disconnect the power before working on the IP board.

4-1-2. No Video (Analog PC signal)

Symptom	<ul style="list-style-type: none"> Audio is normal but no picture is displayed on the screen.
Major checkpoints	<ul style="list-style-type: none"> Check the PC source Check the M-star This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <div style="text-align: center;">LA22B350F2</div> <div style="text-align: center;">LA22B450C8</div> </div> <pre> graph TD Start[Power Indicator is off. Lamp on, no video.] -- Yes --> Q1{Check a PC source and check the connection of DSUB cable?} Q1 -- No --> A1[Input a analog PC signal and connected cable(DPMS).] Q1 -- Yes --> Q2{1 Does the signal appear at R4059, R4058, R4056, R4061, R4060(R,G,B,H,V) of IC4000?} Q2 -- No --> A2[PC cable change a PC cable. Change a main PCB ass'y.] Q2 -- Yes --> Q3{2 Does the digital data appear at the output of LVDS Cable?} Q3 -- No --> A3[Check a IC4000. Change a main PCB ass'y] Q3 -- Yes --> Q4{3 Check a LVDS cable? Replace a lcd panel?} Q4 -- Yes --> End[Please, Call to Samsung Co. LTD.] </pre>
Caution	Make sure to disconnect the power before working on the IP board.

WAVEFORMS

1

R,G,B Output Signal

2002/01/08 10:45:29
Stopped 204

Normal
200MS/s 10ns/div

CH1 10:1
0.500 0.410
DC Full

Edge CH F
Auto
1.770 0

Thumbnail

Format
JPEG

Color
ON

Comment

File List



File Name
FB 0000

20ns/div

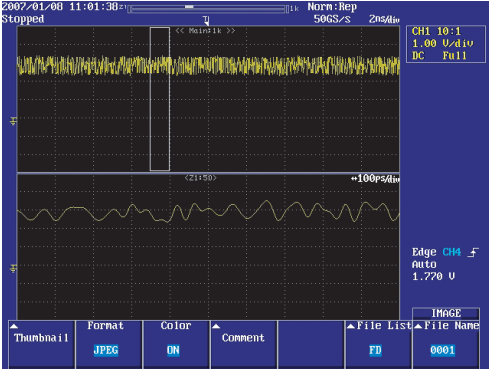
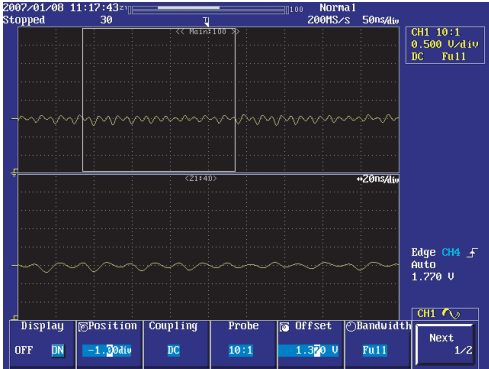
20ns/div

4-4



4-1-3. No Video (HDMI - Digital Signal)

Symptom	<ul style="list-style-type: none"> Audio is normal but no picture is displayed on the screen.
Major checkpoints	<ul style="list-style-type: none"> Check the HDMI source Check the M-star This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> LA22B350F2 LA22B450C8 </div> <div style="margin-top: 20px;"> <p>Power Indicator is off. Lamp on, no video.</p> <p style="text-align: center;">↓ Yes</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>① Check the connection of HDMI cable?</p> <p style="text-align: center;">↓ Yes</p> <p>② Does the digital data appear at R4065~R4072?</p> <p style="text-align: center;">↓ Yes</p> <p>③ Does the digital data appear at output of LVDS Cable?</p> <p style="text-align: center;">↓ Yes</p> <p>Check the LVDS cable? Replace the LCD panel?</p> <p style="text-align: center;">↓ Yes</p> <p>Please, Contact Tech support</p> </div> <div style="width: 45%;"> <p style="text-align: center;">No</p> <p>Input a HDMI cable.</p> <p style="text-align: center;">No</p> <p>Check a IC4000. Change a main PCB ass'y.</p> <p style="text-align: center;">No</p> <p>Check a IC4000. Change a main PCB ass'y.</p> </div> </div> </div>
Caution	Make sure to disconnect the power before working on the IP board.

WAVEFORMS

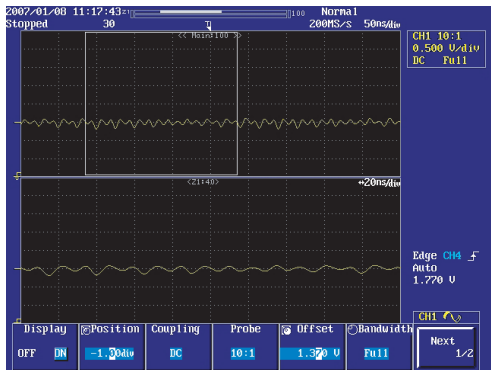
2	Digital Output Data
	
3	Signal of HDMI(Data)
	

4-1-4. No Video (Tuner_CVBS)

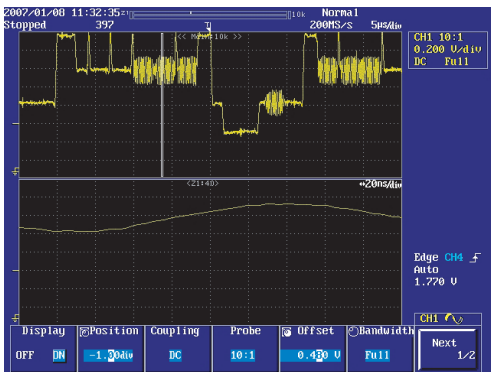
Symptom	<ul style="list-style-type: none"> Audio is normal but no picture is displayed on the screen.
Major checkpoints	<ul style="list-style-type: none"> Check the Tuner CVBS source Check the M-star This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>LA22B350F2</p> </div> <div style="text-align: center;">  <p>LA22B450C8</p> </div> </div> <pre> graph TD A[Power Indicator is off. Lamp on, no picture.] -- No --> B[Connect the RF cable and check RF signal.] A -- Yes --> C[Does the signal appear #8 of TU2400?] C -- No --> D[Check a B+ voltage (#2 of Tuner) 5V, change a main PCB ass'y.] C -- Yes --> E[Does the Signal appear at C4022 of IC4000?] E -- No --> F[Change a main PCB ass'y.] E -- Yes --> G[Check the LVDS cable? Replace the LCD panel?] G -- Yes --> H[Please, Call to Samsung Co. LTD.] </pre>
Caution	Make sure to disconnect the power before working on the IP board.

WAVEFORMS

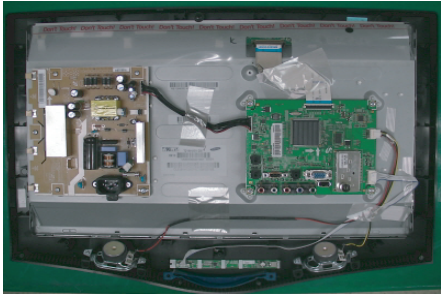

3 CVBS Output Signal



4 Tuner_CVBS Output Signal



4-1-5. No Picture (Video_CVBS)

Symptom	<ul style="list-style-type: none"> Audio is normal but no picture is displayed on the screen.
Major checkpoints	<ul style="list-style-type: none"> Check the Video Source Check the M-star This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> LA22B350F2 LA22B450C8 </div> <div style="margin-top: 20px;"> <pre> graph TD A[Power Indicator is off. Lamp on, no picture.] -- No --> B[Check a A/V cable and video signal.] A -- Yes --> C[1 Does the signal appear at C4025 of IC4000?] C -- No --> D[Check a connection harness.] C -- Yes --> E[2 Check a LVDS cable ? Replcelcd panel?] E -- Yes --> F[Please, Call to Samsung Co. LTD.] </pre> </div>
Caution	Make sure to disconnect the power before working on the IP board.

WAVEFORMS

4

CVBS Output Signal

2009-01-08 11:32:35
Stopped

597

Normal

200MS/s

5ns/div

CH1 10:1
0.200 V/div
DC Full

20ms/div

Edge CH1
Auto
1.770 V

CH1

Display OFF DN

Position 1.000V

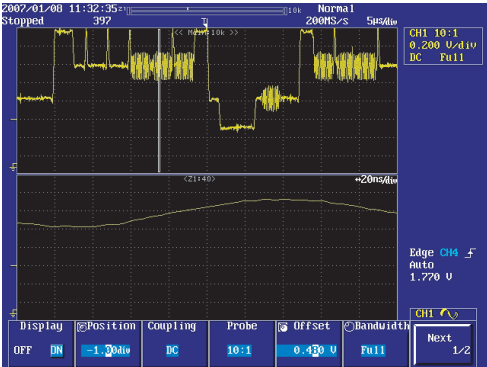
Coupling DC

Probe 10:1

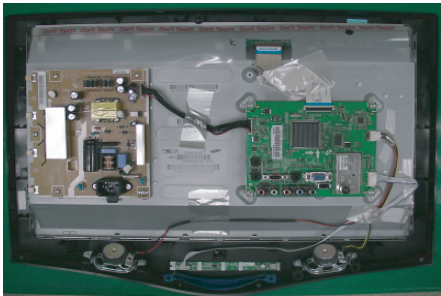

Offset 0.400 V

Bandwidth Full

Next 1/2

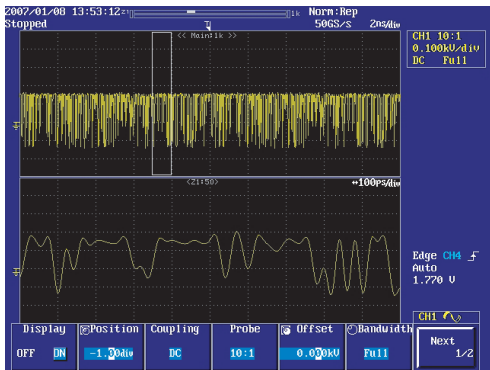


4-1-6. No Sound

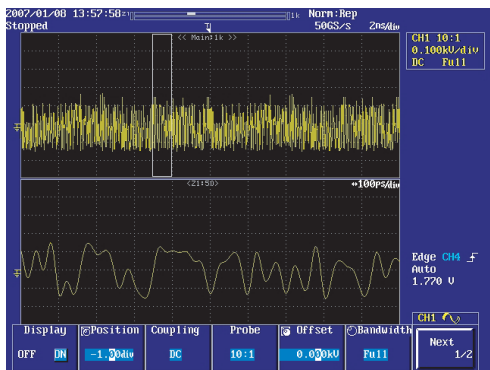
Symptom	<ul style="list-style-type: none"> Audio is normal but no picture is displayed on the screen.
Major checkpoints	<ul style="list-style-type: none"> Check the RF Source Check the M-star This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>LA22B350F2</p> </div> <div style="text-align: center;">  <p>LA22B450C8</p> </div> </div> <pre> graph TD Start[Picture is display, no sound.] -- No --> Step1[Connect a sound cable. control a volume.] Start -- Yes --> Step2{1 Does the signal appear at R2109, R2107,R2108(AUSD,AUWS,AUSCK) of IC2100?} Step2 -- No --> Step3[Check a connection harness and headphone jack/side AV. Check Sound Processor IC6003(M-star)] Step2 -- Yes --> Step4{2 Check the DC 13V appear at C2112 of IC2100?} Step4 -- No --> Step5[Check a B13V Line. Change a main PCB ass'y] Step4 -- Yes --> Step6[Replace the speaker ass'y?] </pre>
Caution	Make sure to disconnect the power before working on the IP board.

WAVEFORMS

6 The Signal are Inputed to IC1201



7 The Signal are Inputed to IC1202



4-2. Alignments and Adjustments

4-2-1. General Alignment Instruction

1. Usually, a color LCD-TV needs only slight touch-up adjustment upon installation.
Check the basic characteristics such as height, horizontal and vertical sync.
2. Use the specified test equipment or its equivalent.
3. Correct impedance matching is essential.
4. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV. When inserting signal markers, do not allow the marker generator to distort test result.
5. Connect the TV only to an AC power source with voltage and frequency as specified on the backcover nameplate.
6. Do not attempt to connect or disconnect any wire while the TV is turned on. Make sure that the power cord is disconnected before replacing any parts.
7. To protect against shock hazard, use an isolation transformer.

4-3. Factory Mode Adjustments

4-3-1 Entering Factory Mode

To enter 'Service Mode' Press the remote -control keys in this sequence :

- If you do not have Factory remote - control



- If you have Factory remote - control



- The buttons are active in the service mode.

1. Remote - Control Key : Power, Arrow Up, Arrow Down, Arrow Left

Arrow Right, Menu, Enter, Number Key(0~9)

2. Function - Control Key : Power, CH +, CH -, VOL +, VOL -,
Menu, TV/VIDEO(Enter)

4-3-2 Panel Check

You have to check Panel Maker Because of different adjustments as follows.

First of all, Check the label rating!

1) Label Rating File

- LCD PANEL MARK

A:ACER(AUO) S : SEC C : CMO

* If not printed you could consider S(sec) panel mark.

4-3-3 Factory Data

■ Option

Option	Factory Reset	OPTION	RANGE
	Type	32D_AG	22D_T,22I_T,22L_T,26D_AG, 26L_AG, 32L_AG, 32D_AG, 37L_AG, 40L_AG, 32A_AG_F, 32L_AG_F, 32D_AG_F, 32I_AG_F, 37L_AG_F, 37D_AG_F, 40A_AG_F, 40L_AG_F, 40D_AG_F, 46A_AG_F, 46L_AG_F, 46D_AG_F, 32A_AG_FF, 32L_AG_FF, 32D_AG_FF, 40A_AG_FF, 40L_AG_FF, 40D_AG_FF, 46A_AG_FF, 46D_AG_FF, 52A_AG_FF, 52L_AG_FF
	Model	B550_FBE	PB350, PB430, PB450, PB550, PB550_FBE, L_BASIC, LB350, LB360, LB360_22, LB450, LB450_22, LB460, LB480, LB480_22, LB530, LB550, B550_FBE, LB622, LB550_FBE_NM
	Tuner Select	SEMCO	SEMCO, XUGUANG
	DDR	Samsung	Samsung
	Ch Table	SUWON	SUWON, SESK, SHE, TTSEC, SEIN, SDMA, TSED, SAVINA, SIEL, TSE
	Local Set	East Asia	Vietnam, Philippines, China, India, Iran, Israel, Middle Asia, East Asia, Thailand, Africa
	P&P Language	English	English, China, French, Arabic, Persia, Hebrew, Russian
	PDP Group	P55A_50SP	P55A_50SP

■ ADC/WB

ADC	AV Calibration	Success	Success/Failure
	Comp Calibration	Success	Success/Failure
	PC Calibration	Success	Success/Failure
	HDMI Calibration	Success	Success/Failure

ADC Target	1st_AV_Low	17	0 ~ 255
	1st_AV_High	234	0 ~ 255
	1st_AV_Delta	3	0 ~ 255
	1st_Comp_Low	17	0 ~ 255
	1st_Comp_High	234	0 ~ 255
	1st_Comp_Delta	3	0 ~ 255
	1st_PC_Low	1	0 ~ 255
	1st_PC_High	235	0 ~ 255
	1st_PC_Delta	3	0 ~ 255
	2nd_Low	2	0 ~ 255
	2nd_High	235	0 ~ 255
	2nd_Delta	1	0 ~ 255

ADC Result	1st_AV_Gain	132	0 ~ 255
	1st_AV_Offset	139	0 ~ 255
	1st_Comp_Gain	67	0 ~ 255
	1st_Comp_Gain_Cb	67	0 ~ 255
	1st_Comp_Gain_Cr	67	0 ~ 255
	1st_Comp_Offset	128	0 ~ 255
	1st_Comp_Offset_Cb	128	0 ~ 255
	1st_Comp_Offset_Cr	128	0 ~ 255
	1st_PC_R_Gain	85	0 ~ 255
	1st_PC_G_Gain	85	0 ~ 255
	1st_PC_B_Gain	86	0 ~ 255
	1st_PC_R_Offset	140	0 ~ 255
	1st_PC_G_Offset	142	0 ~ 255
	1st_PC_B_Offset	142	0 ~ 255
	2nd_R_Offset	57	0 ~ 255
	2nd_G_Offset	57	0 ~ 255
	2nd_B_Offset	57	0 ~ 255
	2nd_R_Gain	114	0 ~ 255
	2nd_G_Gain	114	0 ~ 255
	2nd_B_Gain		0 ~ 255

WB	Sub Brightness	128	0 ~ 255
	Red Offset	128	0 ~ 255
	Green Offset	128	0 ~ 255
	Blue Offset	128	0 ~ 255
	Sub Contrast	128	0 ~ 255
	Red Gain	128	0 ~ 255
	Green Gain	128	0 ~ 255
	Blue Gain	128	0 ~ 255

■ Control

EDID	EDID Protect	On	On/Off
	EDID Type	L13_1920_1080	P12_1024_768, P13_1024_768, P12_1366_768, P13_1366_768, P12_1920_1080, P13_1920_1080, L12_1366_768, L13_1366_768, L12_1920_1080, L13_1920_1080
	EDID Write(0x4D,0)	L13_1920_1080 SUCCESS	P12_1024_768, P13_1024_768, P12_1366_768, P13_1366_768, P12_1920_1080, P13_1920_1080, L12_1366_768, L13_1366_768, L12_1920_1080, L13_1920_1080

Sub Option	Video Mute Time	8	0~99
	Inch	32"	19, 22, 23, 26, 27, 32, 37, 40, 42, 46, 50, 52, 57
	Dimm Type	EXT	EXT, INT, INT_NEG,EXT_POS, EXT_NEG
	D.Gamma	Off	Off, 0.85, 0.88, 0.90, 0.93, 0.95, 0.98, M1, M2, M3, M4
	Anynet+	On	On/Off
	TTX	On	On/Off
	TTX List	Flof	Flof/List
	TTX Group	Lang OSD	"Lang OSD, W Europe, E Europe, Russia, Greek, Turkey, Arab, Farsi, ArabHbrw"
	Carrier Mute	Off	On/Off
	High Devi	Off	On/Off
	Volume Curve	EA	EA, INDIA
	NT Conversion	Off	On/Off
	Auto Power	On	On/Off
	LVDS Format	DEFAULT	DEFAULT, VESA, JEIDA
	LNA Menu	Off	On/Off
	WatchDog	Off	On/Off
	Bus Stop		
	Panel Auto Setting		
	HotPlug	On	On/Off
	HotPlugCtrl	On	On/Off
	HotPlugDelay	12	0~63
	USB Upgrade	Off	On/Off
	Spread Spectrum		

Spread Spectrum	Spread Spectrum	On	On/Off
	Step 1	30	0~255
	Step 2	9	0~255
	Range 1	0	0~255
	Range 2	44	0~255
	FBE SSC	5	On/Off

■ PDP Option

PDP Option	PDP Filter
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■ Hotel Option

Hotel Option	Hotel Mode	Off	On/Off
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■ Shop Option

Shop Option	Shop Mode	Off	On/Off
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■ Sound

SOUND	Detection Threshold			OPTION	RANGE
	Pilot Threshold	M2S Thr High	2	0~255	
		M2S Thr Low	144	0~255	
		S2M Thr High	1	0~255	
		S2M Thr Low	176	0~255	
SOUND	Carrier1 Threshold	Amp On Thr High	2	0~255	
		Amp On Thr Low	0	0~255	
		Amp Off Thr High	1	0~255	
		Amp Off Thr Low	0	0~255	
		NSR On Thr High	16	0~255	
		NSR On Thr Low	0	0~255	
		NSR Off Thr High	32	0~255	
		NSR Off Thr Low	0	0~255	
	Carrier2 Threshold	Amp On Thr High	2	0~255	
		Amp On Thr Low	0	0~255	
		Amp Off Thr High	1	0~255	
		Amp Off Thr Low	0	0~255	
		NSR On Thr High	13	0~255	
		NSR On Thr Low	0	0~255	
		NSR Off Thr High	24	0~255	
		NSR Off Thr Low	0	0~255	
	FM Prescale	23	0~40		
	AM Prescale	22	0~40		
	NICAM Prescale	33	0~40		
	FM M Prescale	23	0~40		
	SC1 Vol	16	0~40		
	SC2 Vol	16	0~40		
	Audio Delay Normal	8	0~255		
	Audio Delay Game	8	0~255		
	Num Of Check	10	0~60		
	Stereo Cnt	10	0~60		
	MP3 Level	0	0~60		
	Ext Volume Scale	2	0~100		
	R2E Scart2 Offset	2	0~40		
	NTP Master Volume	32	0~48		
	NTP PWM Modulation	254	0~255		
	NTP DRC Thresh1	55	0~127		
	NTP DRC Thresh2	80	0~127		
	NTP Speaker EQ	On	On/Off		

■ MST69A84HQ

VDEC	SYNC_LVL	255	0~255
	HPLL_MD	0	0~1
	HPLL_SPD1	16	0~63
	HPLL_SPD2	32	0~255
	CBCRLP_MD	1	0~3
	YC_DLY	1	0~3
	IFCOMP	0	0~63
	SAT_ADJ	128	0~255
	YSEPFLT	7	0~7
	NOISE_LVL	0	0~255

IPC/MJC	Film Det Speed NT	80	0~255
	Film Det Speed PAL	80	0~255
	Motion Hist	5	0~7
	Motion History	3	0~7

Color Space	Red Sat	25	0~30
	Red Hue	64	0~127
	Green Sat	34	0~30
	Green Hue	127	0~127
	Blue Sat	37	0~30
	Blue Hue	80	0~127
	Cyan Sat	37	0~30
	Cyan Hue	80	0~127
	Magenta Sat	25	0~30
	Magenta Hue	64	0~127
	Yellow Sat	23	0~30
	Yellow Hue	64	0~127
	FWC Blue	21	0~30
	FWC Red	21	0~30

■ FBE

FBE	Pattern Select		0~25
	B-Slope Gain		0~255
	B-Tilt Min		0~255
	B-Tilt Max		0~255
	LFuc-Basis		0~255
	HFuc-Basis		0~255
	Mean-Offset1		0~255
	Mean-Offset2		0~255
	Mean-Slope		0~255
	ACR Offset		0~127
	ACR Th1		0~255
	ACR Th2		0~255
	Skin Enable		0~255
	Skin Uv		0~255
	Mskin Uv		0~255
	Sub Color		0~255
	Msub Color		0~255

■ WB Movie

WB Movie	WB Moive	Off	On/Off
	Color Mode	Movie	Dynamic, Standard, Movie
	Color Tone	Cool	Cool, Normal, Warm1, Warm2
	Msub Brigh	128	0~255
	Msub Contr	128	0~255
	W1_RGAIN	138	0~255
	W1_BGAIN	109	0~255
	W1_ROFFS	128	0~255
	W1_BOFFS	128	0~255
	W2_RGAIN	144	0~255
	W2_BGAIN	84	0~255
	W2_ROFFS	128	0~255
	W2_BOFFS	128	0~255
	NO_RGAIN	134	0~255
	NO_BGAIN	109	0~255
	NO_ROFFS	128	0~255
	NO_BOFFS	128	0~255
	Movie_Contr	100	0~100
	Movie_Brigh	45	0~100
	Moive_Color	55	0~100
	Moive_Sharp	75	0~100
	Moive_Tint	50	0~100
	Mv BkLight	10	0~10
	M.Gamma	Off	-5~5
	M.S.Gamma	-3	-3~3

■ EPA Standard

EPA Standard	Std Contr	95	0~100
	Std Bright	45	0~100
	Std Sharp	40	0~100
	Std Color	50	0~100
	Std Tint	50	0~100
	Std Backlight	7	0~10

■ Adjust

Adjust	Dynamic Dimming	Off	On/Off		
	Dynamic CE				
			Dynamic CE	Off	On/Off
			B Slope	Off	On/Off
	LNA Plus		RF Db 0 Level	3	0~255
			RF Db 1 Level	8	0~255
			RF Db 2 Level	13	0~255
			RF Db 3 Level	25	0~255
	Megazine LNA	Off	On/Off		
	UART Select	Off	On/Off		
	Debug Mode	Normal	Normal, NONE, MSTAR, Run Time		
	BackEndMute	Off	On/Off		
	PixelShift Test	Off	On/Off		
	Hp Detect	High	On/Off		
	?????		High/Low		
	PDP FRC	On			
	Visual Test	Off	On/Off		
			On/Off		

■ YC_Delay

YC Delay	PAL BG	1	0~3
	PAL DK	1	0~3
	PAL I	1	0~3
	SECAM BG	4	0~7
	SECAM DK	4	0~7
	SECAM L	4	0~7
	NTSC 358	1	0~3
	NTSC 443	1	0~3
	AV PAL	0	0~3
	AV SECAM	4	0~7
	AV NT358	1	0~3
	AV NT443	1	0~3
	AV PAL60	1	0~3

■ Sharpness

Sharpness	H1 Gain	44	0~63
	H2 Gain	8	0~63
	H3Gain	8	0~63
	H4 Gain	8	0~63
	V1 Gain	48	0~63
	V2 Gain	8	0~63
	H Overshoot B1	16	0~255
	H Overshoot B2	16	0~255
	V Overshoot B5	16	0~255
	V Overshoot B8	16	0~255
	H Undershoot B1	16	0~255
	H Undershoot B2	16	0~255
	V Undershoot B5	16	0~255
	V Undershoot B8	16	0~255
	Coring TH2	1	0~15
	Coring TH1	1	0~15

■ PE

PE	Skin X	0	0~11
	Skin Y	0	0~11
	B Slope	160	0~255
	DLC ML	96	0~255
	DLC_MH	160	0~255
	DLC_H	240	0~255
	Skin_SAT	0	0~15
	Skin_Hue	0	0~127
	M_Skin_Hue	0	
	M_Skin_X	0	0~11
	M_Skin_Y	0	0~11
	Mid_color_level	176	0~255
	M_Mid_color_level	176	0~255

■ EEPROM Reset

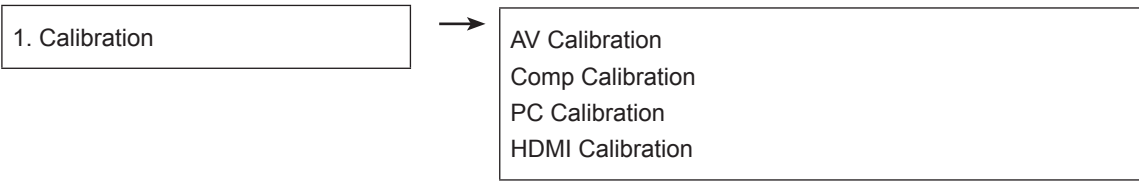
EEPROM Reset	EEPROM Reset		OK
	NVR All Clear	Off	On/Off

■ Defect Log

Defect Log	LogList1
	LogList2
	LogList3

4-4. White Balance - Calibration

4-4-1 White Balance -Calibration

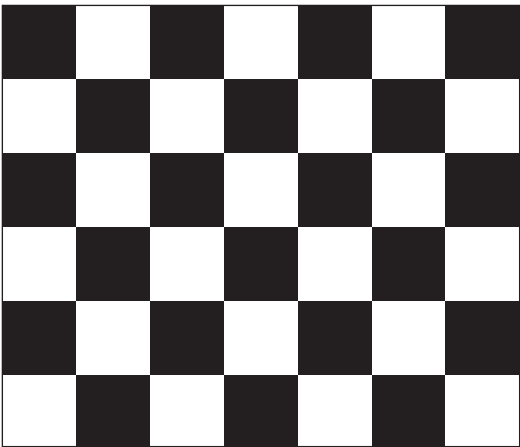


4-4-2 Service Adjustment - You must perform Calibration in the Lattice Pattern before adjusting the White Balance.

■ Color Calibration

Adjust spec.

- 1. Source : HDMI
- 2. Setting Mode : 1280*720@60Hz
- 3. Pattern : Pattern #24 (Chess Pattern)



(Chess Pattern)

4. Use Equipment : CA210 & Master MSPG925 Generator

- Use other equipment only after comparing the result with that of the Master equipment.

Input mode	Calibration	Pattern
CVBS IN (Model_#1)	Perform in NTSC B&W Pattern #24	Lattice
Component IN (Model_#6)	Perform in 720p B&W Pattern #24	Lattice
PC Analog IN (Model_#21)	Perform in VESA XGA (1024x768) B&W Pattern #24	Lattice
HDMI IN	Perform in 720p B&W Pattern #24	Lattice

<Table 1>

■ Method of Color Calibration (AV)

- 1) Apply the NTSC Lattice (N0. 3) pattern signal to the AV IN 1 port
- 2) Press the Source key to switch to "AV1" mode
- 3) Enter Service mode
- 4) Select the "Calibration" menu
- 5) Select the "AV Calibration" menu.
- 6) In "AV Calibration Off" status, press the "►" key to perform Calibration.
- 7) When Calibration is complete, it returns to the high-level menu.
- 8) You can see the change of the "AV Calibration" status from Failure to Success.

■ Method of Color Calibration (Component)

- 1) Apply the 720p Lattice (N0. 6) pattern signal to the Component IN 1 port
- 2) Press the Source key to switch to "Component1" mode
- 3) Enter Service mode
- 4) Select the "Calibration" menu
- 5) Select the "Comp Calibration" menu.
- 6) In "Comp Calibration Off" status, press the "►" key to perform Calibration.
- 7) When Calibration is complete, it returns to the high-level menu.
- 8) You can see the change of the "Comp Calibration" status from Failure to Success.

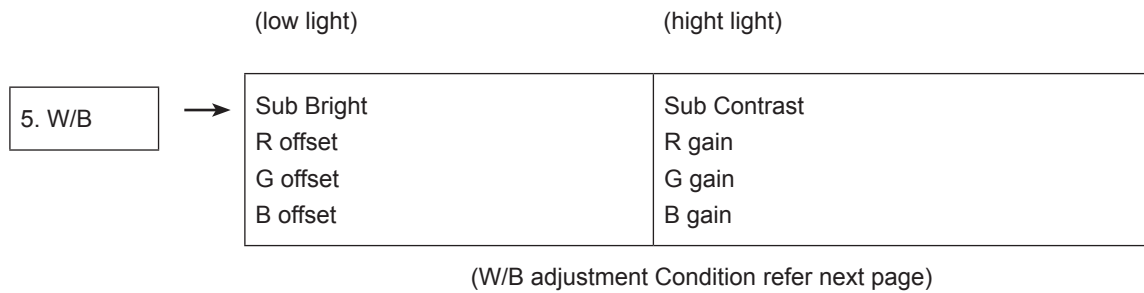
■ Method of Color Calibration (PC)

- 1) Apply the VESA XGA Lattice (N0. 21) pattern signal to the PC IN port
- 2) Press the Source key to switch to "PC" mode
- 3) Enter Service mode
- 4) Select the "Calibration" menu
- 5) Select the "PC Calibration" menu.
- 6) In "PC Calibration Off" status, press the "►" key to perform Calibration.
- 7) When Calibration is complete, it returns to the high-level menu.
- 8) You can see the change of the "PC Calibration" status from Failure to Success.

■ Method of Color Calibration (HDMI)

- 1) Apply the 720p Lattice (N0. 6) pattern signal to the HDMI1/DVI IN port
- 2) Press the Source key to switch to "HDMI1" mode
- 3) Enter Service mode
- 4) Select the "Calibration" menu
- 5) Select the "HDMI Calibration" menu.
- 6) In "HDMI Calibration Off" status, press the "►" key to perform Calibration.
- 7) When Calibration is complete, it returns to the high-level menu.
- 8) You can see the change of the "HDMI Calibration" status from Failure to Success.

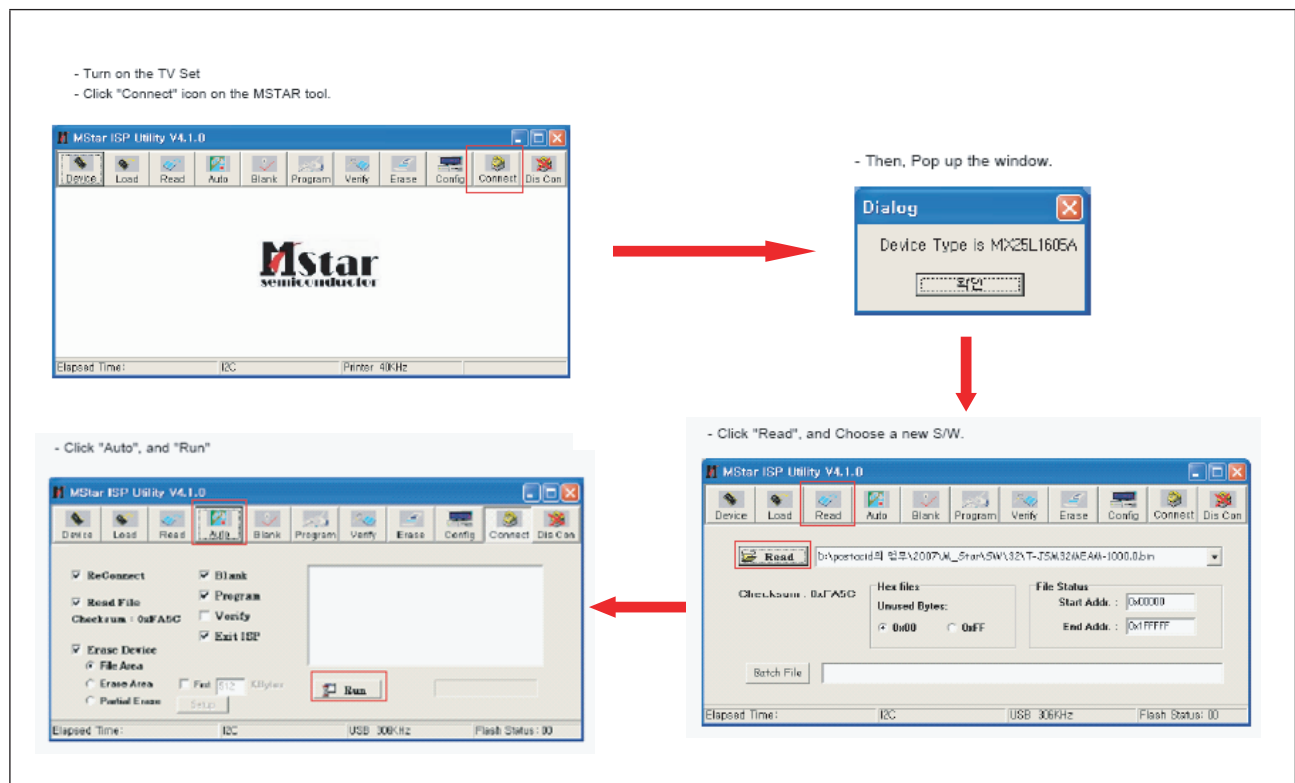
4-4-3 White Balance - Adjustment



4-5. HOW TO UPGRADE

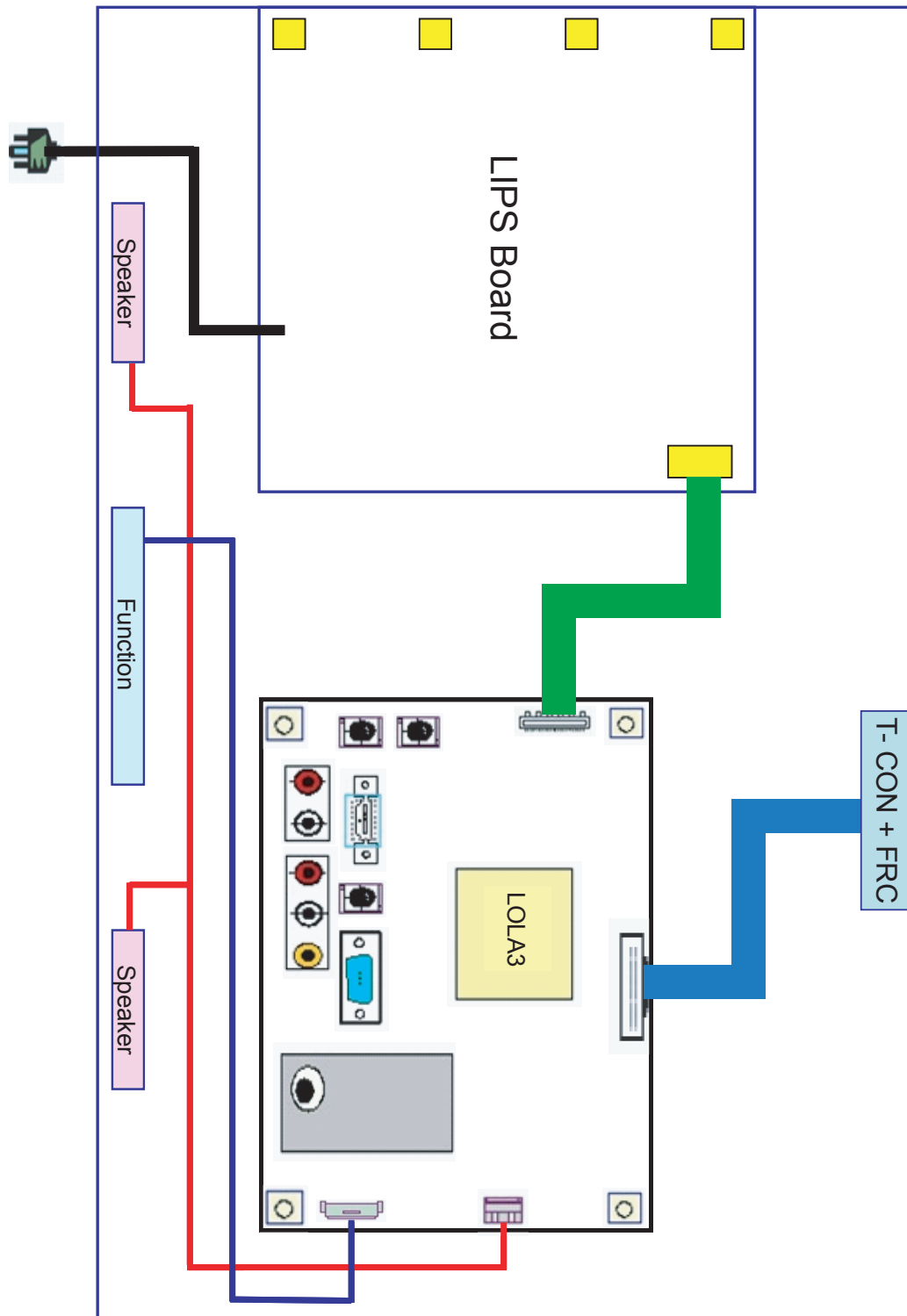
4-5-1 Software Upgrade (MSTAR ISP Tool)

■ MSTAR ISP TOOL



6. Wiring Diagram

6-1. Wiring Diagram



COMP1 / AV1 INPUT (CN3300)	
1	GND
2	COMP_SR_IN
3	COMP_SL_IN
4	GND
5	COMP_SL_IN
6	COMP_SR_IN

(CN3301)	
1	GND
2	IDENT_AV
3	COMP_Y
4	GND
5	IDENT_COMP
6	COMP_PB
7	GND
8	COMP_PR
9	COMP_PR

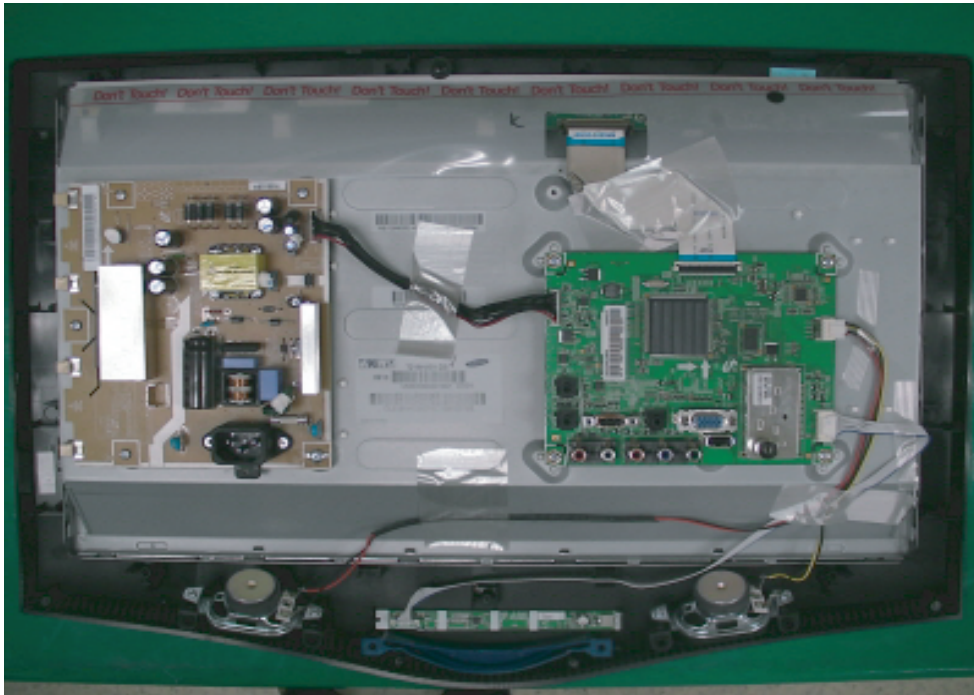
PC/DVI SOUND INPUT(JA3400)	
1	GND
2	PC_SR_IN
3	PC_SL_IN
4	PC_SL_IN
5	PC_SL_IN
6	PC_SR_IN
7	PC_SR_IN

PC INPUT(CN3200)	
1	PC_RED
2	PC_GREEN
3	PC_BLUE
4	GND
5	GND
6	GND
7	GND
8	GND
9	PC_5V
10	PC_IDENT
11	GND
12	SDA_TXD
13	PC_H_SYNC
14	PC_V_SYNC
15	SCL_RXD

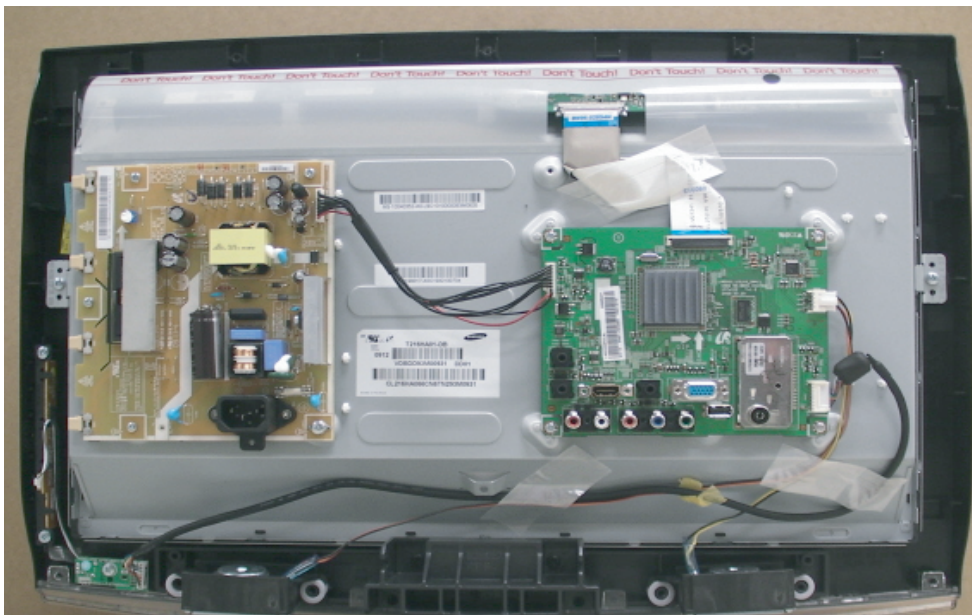
HDMI Connection (CN3100)	
1	HDMI_RX2+
2	GND
3	HDMI_RX2-
4	HDMI_RX1+
5	GND
6	HDMI_RX1-
7	HDMI_RX0+
8	GND
9	HDMI_RX0-
10	HDMI_RXCLK+
11	GND
12	HDMI_RXCLKHDMI_
13	CEC
14	GND
15	HDMI_DDC_SCL
16	HDMI_DDC_SDA
17	GND
18	HDMI_5V / IDENT_HDMI
19	HDMI_5V / IDENT_HDMI
20	GND
21	GND

POWER and Dimming(CN1001)	
1	GND
2	A13V
3	GND
4	GND
5	GND
6	A5V
7	A5V
8	B3.3VD
9	B5V

6-2. Wiring Picture



LA22B350F2

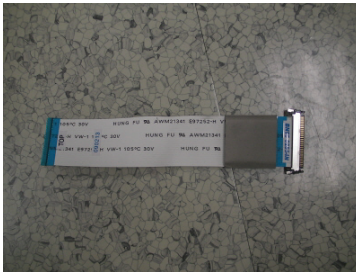
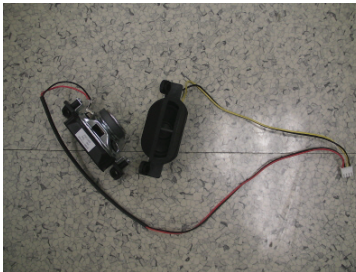



LA22B450C8

6-3. Connector Functions

Connector	Functions
CN1001 <=> SMPS	Supply dimming power from SMPS to Main Board. * defective symptom : abnormal Picture
CN2001 <=> Speaker	Connection Main Board and Speaker. * defective symptom : No picture
CN5401 <=> Function & IR	Connection Main Board and Function & IR Assy. * defective symptom : No picture, disable Power On/Off
CN5200 <=> T-CON	The LVDS signal transferred from Main Board to Panel. * defective symptom : No picture but normal sound

6-4. Cables

Use	(1) LVDS CONNECTOR	(2) ASSY-SPEAKER	(3) IR to FUNCTION
Code	BN96-02854N	BN96-11276A (350 only)	BN96-11522B (350 only)
Photo			
Use	(4) ASSY-SPEAKER	(5) IR to FUNCTION	
Code	BN98-06823J	BN96-07270U (450 only)	
Photo	